BULLETIN OF THE

TAYLOR SOCIETY

AN INTERNATIONAL SOCIETY TO PROMOTE THE SCIENCE
AND THE ART OF ADMINISTRATION AND OF MANAGEMENT

IN THIS NUMBER

APPLIED SCIENTIFIC MANAGEMENT
Beginning a series of important articles
By KING HATHAWAY

PURCHASING POWER
An assembly of revealing data
By LOUIS I. DUBLIN, VIRGIL JORDAN, ROBERT R. DOANE
EMMETT H. WELCH and MAURICE ANSIAUX

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The objects of this Society are, through research, discussion, publication and other appropriate means:

1. To secure—for the common benefit of the community, the worker, the manager and the employer—understanding and intelligent direction of the principles of administration and management which govern organized effort for accomplishing industrial and other social purposes.

2. To secure the gradual elimination of unnecessary effort and of unduly burdensome toil in the accomplishment of the work of the world.

3. To promote the scientific study and teaching of the principles governing organized effort, and of the mechanisms of their adaptations and application under varying and changing conditions.

4. To promote general recognition of the fact that the evaluation and application of these principles and mechanisms are the mutual concern of the community, the worker, the manager and the employer.

5. To inspire in labor, manager and employer a constant adherence to the highest ethical conception of their individual and collective responsibility.

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The Sword of Damocles

Comfortably seated at a banquet given by Dionysius the Elder, tyrant of Syracuse, Damocles chanced to glance toward the ceiling and to his horror perceived above his head a naked sword suspended by a single hair. Enjoyment of the banquet was tempered by realization of the cost in mental peace and personal security with which the splendors of royalty are purchased.

IS THERE a sword of Damocles suspended over the head of American business? The answer to this question must be a major factor in the determination of the policies of every enterprise; and not least of these must be its policy toward regularization of the total industry within which it must do its business.

Just now there is an improvement in business in the United States. Although it manifests itself chiefly in the field of security prices and trading, there is also some advance in commodity prices and in the production for replenishment of certain basic commodities. Most of us assume that prosperity is in sight. Yet a considerable group of thoughtful industrialists and economists are doubtful. They believe that a recession is possible within the next six or eight months, and highly probable within two years.

The latter base their concern on the particular combination of factors with which the new activity is resumed—price maintenance, wage reductions, spreading of work, a generally lower standard of living, and a consequent inadequate purchasing power. They doubt the automatic creation of purchasing power sufficient to carry the volume of production which will satisfy industry as a normal activity in terms of existing production capacity, its capitalization, overhead and burden of fixed costs.

This is industry's possible sword of Damocles. We have brought together in this issue several studies bearing on the question. One cannot but be impressed by the statistical data relating to purchasing power in the two studies, one by Mr. Welch and the other from *The Business Week*. A comparison of the facts revealed in Chart V, p. 175, and in Table III, p. 166, discloses how dependent is business on the purchasing power of small-income receivers and how such incomes have declined since 1929; and other data show how inadequate, even in that year, was purchasing power to take up the annual increment of production. One is compelled to reflect on the cost in mental peace and in personal security with which the splendors of royal capitalization of the new technology are purchased.

Applied Scientific Management[1]

I. Introduction: Its Applicability in All Areas of Management

By KING HATHAWAY
Consulting Engineer, New York

DURING the past two years we have heard much of what might be called wholesale planning and control of industry; we have discussed our economic ills, ways to cure them and ways to prevent recurrence.

A number of ambitious plans have been put forth by men of exalted position in the industrial, financial and academic world for imposing upon industry a super-control and regulation from above. Something may be accomplished in this way, perhaps, but I venture to predict that it would fail completely unless it were built upon a foundation of better management in the individual companies composing each industry. It is my conviction that just as surely as we must deal with the physical, moral and intellectual development of the individual if our democratic civilization is to advance, so must we deal with individual companies if industry as a whole is to attain that higher standard of management which is at least one of the essentials to avoidance of such a deplorable and discreditable state of affairs as that which exists.

As I said in discussing a paper at the last annual meeting of the Taylor Society, "It has seemed to me that we are striving to deal with factors so numerous, so intangible, so wide-spread and so complex as to place them beyond our understanding and control and that in doing so our attention has been distracted from factors which are tangible, understandable and within the control of the engineer and the manager."

Without attempting a discussion of the causes of the depression, I may say without fear of contradiction, that poor industrial management has been in a large measure to blame. The most prominent faults in this respect have been: overselling, overproduction, excessive inventories, overexpansion of producing capacity, all without due regard to purchasing ability, with consequent excessive indebtedness and the burden that it imposed. All of these resulted in industry finding itself in a position, when the financial system broke down, which necessitated retrenchment of a far more drastic nature than would have been the case had the average quality of management been up to a higher standard.

A properly developed and intelligently administered system of scientific management, extending into and governing all branches of a business would go a long way toward guarding against the errors that have been made under management of speculation, opportunism and emotion and have contributed to making the depression more acute and prolonged. It would place in the hands of the general manager of a business tools which would enable him to govern its finances, its inventories, its production, its sales development, its capital expenditures, its product research and development and its expenses, and to co-ordinate them in a manner that is far beyond the average standard of performance today. Had a majority of our industrial companies been operated under such a system for several years previous to the crash, I am certain that several million men would not now be out of employment. Taylor expressed himself on the stabilizing influence of scientific management as follows:

> No system of management, no single expedient within the control of any man or any set of men can insure continuous prosperity to either workmen or employers. Prosperity depends upon so many factors entirely beyond the control of any one set of men, any state or even any one country, that certain periods will inevitably come when both sides must suffer more or less. It is claimed, however, that under scientific management the intermediate periods will be far more prosperous, far happier, and more free from discord and dissension. And also, that the periods will be fewer, shorter and the suffering less.[2]

We are prone to boast of American efficiency and our industrial supremacy, but if we are to retain that supremacy as we emerge from the depression, American industry will, in my opinion, require something better than the kind of management that has permitted it to get by during the post-war boom years. Just so long as a company is able to keep out of the red, meet its bank obligations and satisfy its stockholders by the payment of dividends during prosperous years, will complacency in most cases characterize its management.

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[1] This is the first of a series of six or eight articles on this general subject. The second one will deal with Plan of Organization and Classification for a Business.

[2] Taylor, F. W., *The Principles of Scientific Management*, Harper & Brothers, New York and London, 1917, p. 29.

In 1895 in his paper, "A Piece Rate System," which primarily dealt with elementary time study and the setting of tasks based thereon, Taylor made the following statement:

> While the writer regards the possibilities of these methods as great, he is of the opinion that this system of management will be adopted by but few establishments, in the near future, at least; since its really successful application not only involves a thorough organization, but requires the machinery and tools throughout the place to be kept in such good repair that it will be possible for the workmen each day to produce their maximum output. *But few manufacturers will care to go to this trouble until they are forced to.*

Although he had in mind here primarily the problems of production, since his philosophy had not developed to encompass, as it did later, all other departments and activities of a business, what he said thirty-seven years ago with respect to his embryonic system of production management, now holds equally true with respect to the complete system of scientific management. Improvement in management comes about largely as a result of economic pressure. Such pressure is now being felt and I believe that as a consequence we may look for a keener and more discriminating interest in the art of management. These articles are written in the hope of affording a better understanding of scientific management and a realization that in its thorough, general and intelligent application may well lie the salvation of American industry, and an important means to avoidance or amelioration of future depressions.

The fact that Taylor in his writings and in his talks emphasized the features of his philosophy of management which had to do with shop operation and production, touching only incidentally upon general management and other major administrative activities, was due to the fact, as has been pointed out by Dr. Person in a scholarly paper read before the Amsterdam World Social Economic Congress in 1931, that increased production was in those days management's greatest problem. With a buyer's market the emphasis shifted to sales. During the depression we have heard much of budgetary control and something of product research and development. With increasing sales and financial charges offsetting reductions in cost of production, the emphasis as we emerge from the depression will be upon general management. That Taylor's early work encompassed all of these is too little known. There has been almost nothing written with respect to the Taylor methods of accounting, and yet they form the basis of all modern accounting practice. Taylor's interest in accounting dated back to his days at Midvale and there may be found, in his files at Boxly, papers dealing with classification of expense, expense analysis and other features of cost accounting developed during that period. It was at the Manufacturing Investment Company in the early nineties, with the help of a consulting accountant, Mr. William D. Basely, that Taylor developed a completely rounded out system of accounting which fitted in harmoniously with all other features of his more advanced system of management. Subsequently, for a period when other work was scarce, he served various clients as a consultant in accounting matters.[3] While Taylor methods have had a wide-spread influence in the field of modern accounting,[4] as in the case of his methods having to do with production, most of our industrial accounting still falls short of the standards set by Taylor with respect to mechanism and technique.

As to sales management, around 1913 I worked out and put into effect, while I was vice-president of the Tabor Manufacturing Company, a very complete system of market analysis and a scheme for the planning and control of sales activities. This was done under Taylor's guidance and suggestion, with certain work of his own for an early client as a background.

During the panic of 1907 and more fully during the depression of 1910, under Taylor's inspiration, I worked up a flexible budget plan which was an important factor in keeping expenses in line with revenue during the dull period and recovery. I mention these things not with a view to making sweeping claims of omniscience for scientific management or its originator, but rather to correct an erroneous idea held by many high in the ranks of industry and finance that scientific management, as conceived and developed by Taylor, was limited to a set of theories in the field of production, and included only time study and some sort of an incentive wage scheme.

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[3] *See* Copley, Frank B., *Frederick W. Taylor*, Harper & Brothers, New York, 1923, Vol. I, pp. xviii, 360, 371, 391, 392, 445, 446; Vol. II, pp. 142, 144.

[4] "The (development stage of cost accounting) was spread over a long period of years, and may be said to have started with the announcement of the principles of scientific management by the late Dr. Taylor." Bennett, Clinton W., in the *N.A.C.A. Bulletin* published by the National Association of Cost Accountants, Vol. XIII, No. 13, March 1, 1932, p. 862.

Strange as it may seem at this late day, there exists an appalling ignorance and misunderstanding with respect to the nature and scope of scientific management. This is true of its principles, its mechanisms and its techniques. This ignorance and misunderstanding is greatest among the very men who would profit most by really knowing something about it. I refer to those in administrative and financial control of industry: presidents, general managers, treasurers and comptrollers, and last but not least, bankers. Too often such men are prone to assume a knowledge of the subject which they do not possess and are too busy, too lazy or too self-satisfied to acquire. As a consequence of this lamentable ignorance and lack of discrimination in high places there has been a wide-spread application of what passes for scientific management, but what is at best nothing more than a weak, diluted imitation. We must admit that these imperfect, superficial and partial applications of unco-ordinated features of scientific management have resulted in savings or increases in production which were for the time being gratifying. Nevertheless, I feel safe in saying that in a vast majority of plants outside the mass-production industries, and perhaps even there, production might be further increased from 30 to 100 per cent for the same cost, with a corresponding advantage in all other branches of the business, through a complete and properly worked out system of scientific management.

Through the lack of understanding and the misconceptions that exist, scientific management has often been confused with mass production. There have been misguided instances of effort to apply the rigid methods of mass production in businesses where, by reason of the variety of products, the relatively small quantity of each and the necessary frequent changes in design, they were unsuitable. Mass production is not in itself scientific management. It is true that mass-production industries, because of their nature, have applied more generally and in a better manner certain elements of scientific management, and that such elements have been in a great measure built into their plants and equipment. And yet I doubt if a single mass-production company could be found with a complete and properly co-ordinated system of scientific management; nor is there one which would not profit by such a system.

We of the Taylor group are no doubt somewhat to blame for the state of affairs of which I am critical. We have been too ready to assume, on the part of those concerned with industrial management, a knowledge and understanding of the subject as complete as our own, particularly of its mechanisms and techniques.

Following Taylor's tendency in the latter years of his life we have stressed the importance of the spirit and principles while minimizing the importance of the means developed for putting them into practice and the manner of their use. The mechanism or system developed by Taylor and perfected, under his guidance or inspiration, by Barth, Gantt and others who came directly under his influence, is remarkable for that same painstaking, far-seeing thoroughness that characterized his work on the art of cutting metals and his rules for the use of belting which are still authorities more than thirty years after being made public. Naturally, the system, or certain features of it, must be modified or amplified and adapted to suit varying conditions found in various industries. It is in this matter of adaptation that the consulting engineer justifies his existence, if in no other way. In a long and varied experience in the application of scientific management in industry, including periods when I took my own medicine as manager, I found that if I followed the Taylor mechanisms and techniques, making only such modifications as the case demanded, and *keeping in mind the purpose* back of the original, the desired results were inevitably accomplished or exceeded. Short cuts or omissions always resulted disastrously. I, like others, had to make my share of what Taylor picturesquely called "damned improvements," that is to say, ill advised changes, before I learned to look beyond the surface and appreciate the profound thought that Taylor had given to every detail of the devices that made up the system to the development of which he had devoted some twenty-five years.

Taylor's views on invention hold good with respect to managerial mechanisms. He said:[5]

> Now for the average man no invention can be looked upon as legitimate invention which is not an improvement on mechanism or processes or appliances which are already in existence, and which are successful. It is thoroughly illegitimate for the average man to start out to make a radically new machine, or method, or process, new from the bottom up, to do things which have already been done in the past. Legitimate invention should always be preceded by a complete study of the field to see what other people have already done. Then some one or more defects should be clearly recognized

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[5] From "Success," a Lecture to Young Men Entering Business, presented to engineering students at the University of Illinois and the University of Cincinnati, February, 1909. Reprinted in the *Bulletin of the Taylor Society*, Vol. XI, No. 2, April, 1926, pp. 24-75.

> and analyzed, and it is entirely legitimate for an engineer to use his ingenuity and his inventive faculty in remedying these defects, and in adding his remedy to the existing elements of the machine or the process which have already been found to work well.

In the application of the principles and practices of scientific management much benefit would result if before attempting to work out their own mechanisms and techniques people would first make a careful and thorough study of what already exists, and use this as a basis for adaptation and further development. Valuable time would be saved and costly error or failure avoided in many instances. I recall Taylor's having made the statement in regard to the mechanism of scientific management, that probably within a decade it would all be replaced by something better. Time has proved him to have been mistaken in this. Instead of improvement in the means for applying scientific management, there has been retrogression. Today the mechanisms devised by Taylor, with such improvements as have come about as a matter of evolution, are still far ahead of common practice.

Although we who have been endeavoring to forward the movement started by Taylor may be disappointed by the faulty manner in which scientific management, or at least certain elements of its techniques, have been applied, we can derive some consolation from the thought that what has been done may pave the way to the higher level which Taylor visualized as a goal.

It seems inevitable that progress must be made by degrees and that industry must pass from rule-of-thumb management, or as Kendall put it, unsystematized management, through systematized management before approaching scientific management. As a matter of fact most of the companies known to me had, before using the methods of scientific management, employed one or more firms of efficiency engineers, or systematizers, whose work had been satisfactory so far as it went. On top of it, however, the more thorough methods and well co-ordinated system of scientific management produced results far more important than had the previous efforts. The work of the efficiency engineers in the main makes the work of the scientific-management engineer easier than it would be if it were necessary to advance directly from the unsystematized stage to scientific management.

My reasons for writing this series of articles, as suggested by the foregoing, may be summed up as follows:

1. The average quality of management in American industry is still low.

2. Poor management, particularly general management, has been one factor in bringing about and prolonging the existing business depression.

3. While there has been a wide-spread application of elements of the principles and practices of scientific management, it has been made without adequate knowledge or understanding and has consequently been incomplete, faulty and lacking in co-ordination. Hence it has fallen short in the matter of results.

4. If a sufficient number of individual companies operated under a complete system of true scientific management it would aid in avoiding economic maladjustments, and in most companies production would be increased from 30 to 100 per cent with corresponding advantages in all other departments.

5. While the prevailing inferior quality of management has been good enough to enable American industry to get by during the post-war boom period, something better, which scientific management can supply, will be required.

6. A profound ignorance with respect to scientific management on the part of those in administrative and financial control, and their complacency, are responsible for the existing low standard of management.

7. If American industry is to take advantage of the benefits afforded by a higher quality of management, the top men who control it must take the trouble to acquire a knowledge and understanding of all that is involved in scientific management, its principles, its mechanisms and its techniques. No subordinate can do this for them and it is to facilitate the task that this series is undertaken.

Rather than repeat in detail much that has been written with respect to the economic significance, the social aspects, the principles, the mechanisms and the techniques of scientific management, I shall make generous use of references to books, papers and articles. To anyone desirous of acquiring a comprehensive grasp of the subject this supplementary reading will be indispensable. As these articles will appear at two-month intervals, there should be ample time for a careful and thoughtful reading of the references given in each of them. As a beginning, I should recommend the following, in the order given:

1. "Unsystematized, Systematized and Scientific Management," by H. P. Kendall.
2. "The Spirit in which Scientific Management Should be Approached," by James M. Dodge.
3. "Prerequisites to the Introduction of Scientific Management," by King Hathaway.

The three foregoing articles may be found in one volume entitled "Scientific Management," edited by C. B. Thompson, Harvard University Press, Cambridge, 1914. It is recommended that in order to avoid confusion the reader pay no attention at this time to other articles contained in this volume.

4. "Frederick W. Taylor, Father of Scientific Management," A Biography, by Frank Barkley Copley, Harper & Brothers, New York, 1923. This is recommended not so much for the interesting picture that it gives of the man, but for the help that it gives in understanding his work.

5. "The Principles of Scientific Management," by F. W. Taylor, Harper & Brothers, New York, 1917.

6. Preface to the French Edition of "The Principles of Scientific Management," by Henri Le Chatelier, translated by Eleanor Bushnell Cooke. This may be found in "Scientific Management," edited by C. B. Thompson (referred to above).

7. "The Origin and Nature of Scientific Management," by H. S. Person. This is Chapter I in "Scientific Management in American Industry," Harper & Brothers, New York, 1929. The reader should disregard all other chapters in this book for the present.

8. Taylor's testimony in "Hearings Before a Special Committee of the House of Representatives," 1912, reprinted in *Bulletin of the Taylor Society,* June-August, 1926.

Let us now consider what elements are essential to the mechanism of a complete application of scientific management:

1. A plan of organization starting with the chief executive of the business, with clearly defined functions, responsibilities and inter-relationships.

2. A mnemonic classification for the business.

3. A system of periodic reports serving as tools in the hands of the general manager.

4. An accounting system designed to fit in with all other elements of the system of management, primarily with a view to making it useful as a tool of management.

5. A flexible budgetary system providing standards comparable to those established for production, for each class and sub-division of indirect expense under varying operating conditions and for various volumes of business.

6. A purchasing system co-ordinated with and serving the needs of engineering, manufacturing and finance.

7. A system of market and sales analysis co-ordinated with a system for planning and control of sales activities.

8. A system for the planning and control of product development and improvement.

9. A system for the planning and control of engineering or its equivalent.

10. Standardization of plant equipment.

11. A system for receipt, storage and delivery of all materials.

12. A system for planning and control of production, from receipt of a customer's order to its shipment, whether the product may be drawn from stock or must be specially manufactured.

13. A system for maintenance of plant and equipment, involving the principle of prevention of breakdowns and interruption of operation, through planned and scheduled inspections, adjustments and planned major repairs.

14. A properly graded schedule of salaries and wage rates based upon the nature, importance and responsibilities of occupations and positions.

15. An incentive pay system with accurately set tasks or production standards based upon method and time study.

16. A system of employe records coupled with a definite plan for development of men designed to advance them in position and pay as they become qualified and circumstances permit.

Each of these elements must be so designed as to fit in and function harmoniously with all others, like the parts of a watch; otherwise their presence in a business does not constitute scientific management. Lack of co-ordination and disregard of principles characterize most of the present applications of the mechanisms of scientific management.

In regard to mechanisms Taylor said:

> The history of the development of scientific management up to date, however, calls for a word of warning. The mechanism of management must not be taken for its essence, or underlying philosophy. Precisely the same mechanism will in one case produce disastrous results and in another the most beneficent. The same mechanism which will produce the finest results when made to serve the underlying principles of scientific management, will lead to disaster if accompanied by the wrong spirit in those who are using it.*

Perhaps one of the principal obstacles in the way of a general adoption of true scientific management is the time required to develop and put in force a system for its application and to effect the necessary changes

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*Taylor, F. W., *Principles of Scientific Management,* pp. 128-29.

in organization. This is not due solely to the physical changes and work involved, but fully as much to the fact that considerable time, together with patient teaching, is required for the people affected to change their habits of thought. As Taylor said, "The development and establishment of the various elements of the mechanism should go on as rapidly as may be possible," but "On the other hand, the really great problem . . . in a change to scientific management consists in a complete revolution in the mental attitude and the habits of all those engaged in the management, as well as of the workmen. And this change can be brought about only gradually, through the presentation of many object lessons to the workman, which together with the teaching which he receives thoroughly convince him of the superiority of the new over the old way of doing the work. This change in the mental attitude of the workman imperatively demands time. It is impossible to hurry it beyond a certain speed. The writer has over and over again warned those who contemplated making this change that it was a matter, even in a simple establishment, of from two to three years, and that in some cases it requires from four to five years."[7]

It is not only the workman to whom this applies. It has been my experience that it is frequently true in the case of officials, department heads, salesmen, accountants and supervisors.

After having paved the way for scientific management by an educational campaign, the most important thing to success is to find a competent man to direct the undertaking. On this point Taylor said:

> Inasmuch as the writer has personally retired from the business of introducing this system of management . . . he does not hesitate again to emphasize the fact that those companies are indeed fortunate who can secure the services of experts who have had the necessary practical experience in introducing scientific management, and who have made a special study of its principles.[8]

In "Shop Management" Taylor also said that the task of this man is "a difficult and thankless one."[9]

Personally, I have always felt that the best and most lasting results were achieved by bringing in from the outside as few assistants as possible. In practically every organization there will be found ample talent which can be developed and utilized by the man directing the undertaking. I also feel that any assistants whom it may be necessary to bring in from the outside should be directly in the employ of the company. During periods when I have been simultaneously directing the introduction of scientific management in several companies I have found it advantageous to secure for each client an experienced man who devoted his full time to the work and to have someone thoroughly conversant with the particular business delegated from the client's organization to co-operate with him.

As Taylor put it, "To decide where to begin is a perplexing and bewildering problem." Under ideal circumstances, I should prefer to attack the fifteen elements listed above in the order given, but usually some peculiar condition or pressing need prevents following so logical a course. Development should be going on simultaneously at several points. In this series of articles I shall discuss each element, the mechanism associated with it, and its relation to other elements, and shall follow the sequence of subjects listed here.

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[7] *Op. cit.*, p. 131.

[8] *Ibid*, p. 132.

[9] Taylor, F. W., *Shop Management*, Harper & Brothers, New York and London, 1911, p. 135.

IT SHOULD be noted—a fact of transcending importance—that the ability to control huge multiplant enterprises through harmonizing of centralization and decentralization is possible only where there is a preceding progressive development of scientific management in every lesser area of an enterprise; in unit operations, production in general, merchandising, general administration and human relations. It is the splendid fruit of these basic developments. Controls of such huge enterprises is dependent on controls throughout every unit of the enterprise; the larger the area of control, the more essential is control in every constituent unit. Therefore effective rationalization of an entire industry, or of all industry in a nation, is possible only to the degree that the constituent plants are scientific-management plants. . . . .
(H. S. Person, *Scientific Management as a Philosophy and Technique of Progressive Industrial Stabilization,* World Social Economic Congress, Amsterdam, 1931, page 38.)

Population Changes and Consumption

A Forecast for Our Industrial Future

By LOUIS I. DUBLIN
Third Vice-President and Statistician, Metropolitan Life Insurance Company, New York

THAT we are living in a period of falling birth rate is a familiar fact. Probably few realize, however, how rapid the decline has been. The birth rate today is only about one-half of what it was sixty years ago, and the last ten years has seen a drop of over 20 per cent, from about twenty-three per thousand to less than eighteen per thousand. Even this last figure fails to give adequate expression to the true situation, for it is bolstered up by the effect of a certain peculiarity of the prevailing age distribution. The population of the United States today is favored with a relatively high proportion of men and women in the reproductive period of life, a state of affairs which temporarily gives us an advantage, and even our low present birth rate of eighteen per thousand could not be maintained without this temporary advantage. The present abundance of persons in the reproductive period of life is due to two causes; namely, first, the higher birth rate twenty or thirty years ago which has supplied our present contingent of persons twenty or thirty years old; and secondly, the great volume of immigration which in the past brought to this country many young persons either at or approaching the reproductive period. Both of these influences have had the effect of swelling the proportion of those in the middle registers of life, and this in turn results in more births than we are entitled to on the score of the present fecundity of the population, that is, the average number of children born to a marriage.

The excess of births over deaths which we now enjoy—amounting to 900,000 a year—would be practically wiped out were it not for the effect of this artificial age distribution, which will, in the course of time, give way to a normal state of affairs with a diminished contingent of persons in the reproductive period. With four immigrant aliens leaving our shores for every one that comes in, it can be said that immigration in this country has ceased today; in fact the stream has been reversed. This fact, together with a falling birth rate, will eliminate the concentration of life at the young child-bearing ages.

If the present rate of decline should continue, it would result in an unprecedented state of affairs amounting to race suicide. We can hardly believe that this will happen; a more plausible supposition is that the birth and death rates will balance each other by the time the mean length of life has risen from the present figure of about sixty to an ultimate seventy years. This means that the birth rate will have dropped to a level of about fourteen births per thousand. On the assumption that this balance of birth rate and death rate will be reached in the year 1950, we have computed that the population of the United States will touch its maximum of 154,000,000 in 1990 and will thereafter decline slowly. On a more radical assumption that the birth rate will decline to ten per thousand, the population will reach its maximum of somewhat less than 150,000,000 about 1975, and will go into a rapid decline thereafter. I believe that the latter prognostication is more apt to be realized if present tendencies toward small families continue to prevail.

The accompanying Chart I shows the changes which will have occurred in the age composition of the nation by the time the population becomes stationary. The most significant change is occurring among those over fifty years of age. In 1850 the proportion was only 8.9 per cent; by 1920 it had risen to 15.4 per cent, and we estimate on a conservative basis[1] that the 1950 figure will be 23.6 per cent. The age distribution in the United States at successive epochs may be indicated in percentages as follows:

Age Group	*1850*	*1920*	*1950*	*Ultimate Stationary Population*
Under 20 years	52.5	40.7	32.7	29
20 to 50 years	38.6	43.9	43.7	40
Over 50 years	8.9	15.4	23.6	31
Total	100.0	100.0	100.0	100

The outstanding feature in the changes that lie before us in the next generation will be a marked reduction in the number of young and a corresponding

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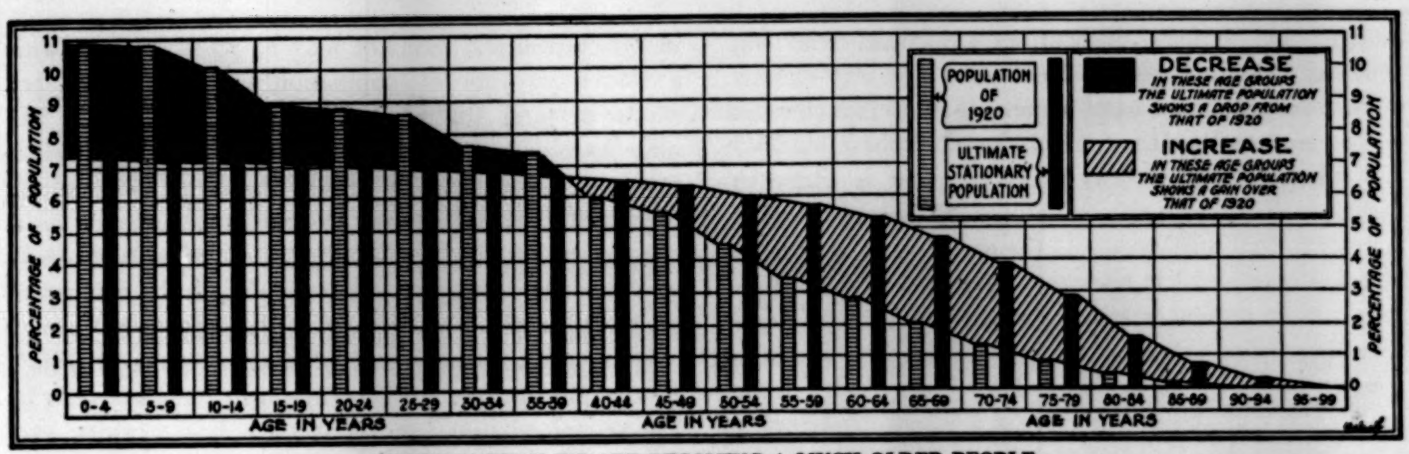
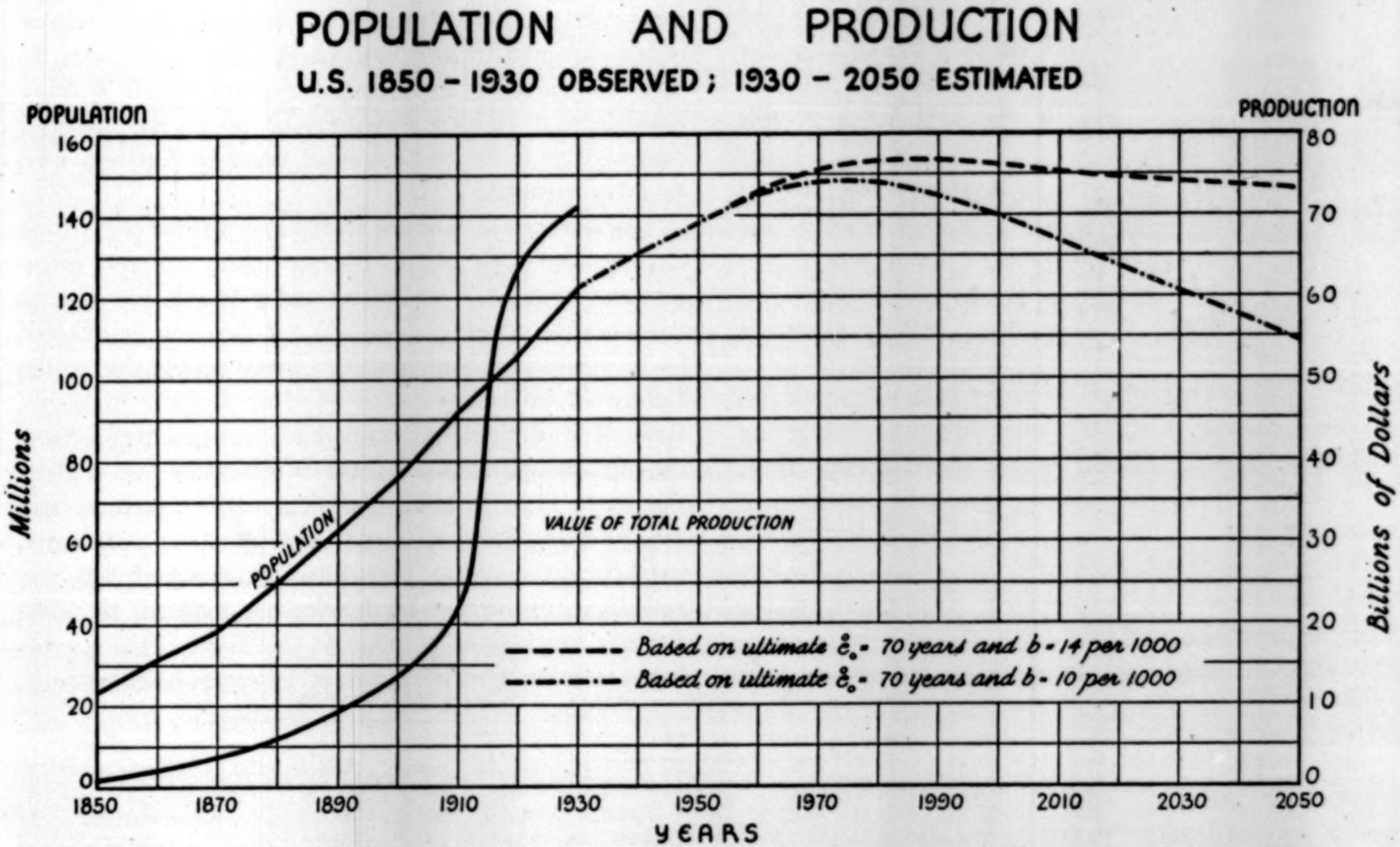
[1] New Zealand life table for females, which exhibits a mean length of life of 65.4 years.



SHOWING THAT WE ARE BECOMING A MUCH OLDER PEOPLE.

The Chart Shows the Contrast Between the Population Figures, by Age Groups, for 1920 and for the Period Two Generations Hence When, It Is Estimated, We Shall Have Arrived at a Virtually Stationary Population. It Shows That We Are Moving Toward a Marked Reduction in the Percentage of Young People and a Corresponding Increase in the Percentage of Old Ones, the Line of Ultimate Population Showing a Decided Drop in Age Groups Under Forty Years and a Decided Rise in Age Groups Above Forty Years, as Compared With the Figures for 1920. In the Ultimate Stationary Population It Is Estimated That 29 Per Cent Will Be Under Twenty Years, 40 Per Cent Between Twenty and Fifty Years, and 31 Per Cent Over 50 Years.

Chart I


POPULATION AND PRODUCTION

U.S. 1850 - 1930 OBSERVED; 1930 - 2050 ESTIMATED

NOTE: The value-of-total-production curve is added for suggestive purposes only. The absolute dollar values, because containing duplications, are not significant; a curve of "value added by manufacture," plotted on a proper scale, would have the same shape.

Chart II

increase in the number of old persons. If we carry these estimates farther into the following generation, when we shall have arrived at virtually a stationary condition, the differences will be even more marked. The proportion of persons under twenty will be approximately 29 per cent and those over fifty 31 per cent. We shall then be a much older people.

It is an encouraging sign of our times that the results of scientific researches such as we have just described quickly filter into the current channels of thought and action. Executives associated with big business have not been slow to see the implications in the statements we have made. It is a characteristic of the leaders that they try to forecast their markets and adjust their business plans to what is likely to happen. But it is also characteristic that expansion appeals to the imagination of the majority of American business men and has become a part of their habit pattern. The present economic situation gives evidence that they have not as a whole been heeding the tendencies which I have been describing. With these population changes accompanying a rapidly developing machine and management technique, the result of unconsidered expansion was bound to be unemployment, with its consequent distress, lowered standards of living and charitable doles. It is probably safe to assume that the development of machine processes and efficient management methods will continue into the future. This may mean still further competition for jobs and still further distress because of the fact that an older people will be less able to meet this competition.

From the point of view of consumption, and of stability of business and investment, it is obvious that the decline of the rate of increase of population accompanied by a rise in the rate of increase of productivity creates—has already created—most serious economic problems. (See Chart II) Industry is, as it were, between a pincer's jaws, a declining rate of population increase pressing it on the one side, and increasing productive capacity on the other. At the same time, the quantity of capital seeking profitable investment is increasing.

There is no need, however, to adopt an unduly pessimistic view. A constructive acceptance of the changing conditions of our time should enable us to cope with the situation. Increasing productivity both in agriculture and industry may be possible along with a slackening rate of population increase if the per capita demand for goods can be widened. One has only to observe the city slums and poverty-stricken agricultural districts to realize the possibilities along this line. Demand cannot be widened, however, without increasing the purchasing power of a large body of the people through a wider sharing in the economies of machine and management technology.

The problems presented offer as great a challenge to the imagination of the American business man as did the pioneering conditions of a half century ago. Possibilities of adapting quantities and kinds of product in accordance with the changing age composition of our population will appear. An increase in leisure, either through reductions in working hours or the shortening of working life by means of earlier retirement plans, always provided this increase in leisure is accompanied by adequate purchasing power, may be seen as widening the demand for goods. It is even possible that further measures of social and political control may come to be looked upon by business men as advantageous.

The changes in thought which may follow population changes and their effects upon industry are also interesting to consider. Will an older people be a more conservative people? How will our thinking be affected by an increasing homogeneity of our people due to the falling off in immigration? And an increase in leisure time, if it is achieved, may have far-reaching effects on our thought. All of these influences, as well as the more clearly defined aspects of the picture, will modify the nature of needs and must be considered by the industrialists. The picture is too confused, and too many conflicting tendencies are evident, to make definite conclusions possible at this time. That a challenge is being presented cannot, however, be questioned.

MASS PRODUCTION is not simply large-scale production. It is large-scale production based upon a clear understanding that increased production demands increased buying, and that the greatest total profits can be obtained only if the masses can and do enjoy a higher and ever higher standard of living. For selfish business reasons, therefore, genuine mass-production industries must make prices lower and lower and wages higher and higher, while constantly shortening the workday and bringing to the masses not only more money but more time in which to use and enjoy the ever-increasing volume of industrial products. Mass production, therefore, is *production for the masses.* It changes the whole social order. It necessitates the abandonment of all class thinking. . . by all who wish to live successfully in the machine age. (E. A. Filene, *Successful Living in This Machine Age,* Simon and Schuster, page 1.)

The American Consumer Market

Wages and Salaries as Buying Power—The Paradox of Profitless Prosperity

Adapted from *The Business Week*

During the past summer The Business Week *has published a noteworthy series of articles under the general caption "The American Consumer Market, A Study by* The Business Week.*" These articles have told how Americans spend their money; who does the spending and for what. We consider them so timely that we have secured permission to present a few of the more significant data to our members.*

The figures were compiled under the direction of Virgil Jordan, economist of The Business Week *and the McGraw-Hill Publishing Company, with the collaboration of Robert R. Doane, who is responsible for the statistical compilation. So far as we know this is the first piecing together and systematic treatment of a surprising amount of available information relating to consumption for the period covered. The main sources of material are described in* The Business Week *of April 27, 1932.*

A Budget of Consumption

The essential significance of Tables I and II is that they set up a complete budget of the American people as consumers, and give a comprehensive picture of the standard of living of this country over twelve years of rapid change in consumer habits and social customs. It is important to note that the value of goods and services consumed is not necessarily the same thing as the amount of money spent for them by consumers, for much is consumed that is not fully paid for by individual consumers, and individuals pay for much that they never consume. Some attempt will be made later to account for this discrepancy. On the whole it is safe to say that the consumer goods as well as services produced each year are pretty completely consumed or sold at some price, whether fully paid for or not. The actual amount paid for them lies somewhere between the estimates of recorded money income and the tables here given of

The American Consumer Market

Total Value of Goods and Services Bought, Taxes Paid and Savings by Individuals in the Continental United States

(Millions of Dollars)

	1919	*1920*	*1921*	*1922*	*1923*	*1924*	*1925*	*1926*	*1927*	*1928*	*1929*	*1930*
Food	21,495	23,549	18,036	19,093	20,734	20,765	21,807	23,166	23,194	24,508	24,392	21,712
Housing	12,757	13,918	12,948	13,677	15,121	15,294	15,961	16,894	17,229	17,858	18,337	16,178
Wearing apparel	9,577	10,665	7,923	8,576	10,067	9,589	9,341	9,924	9,277	9,739	9,313	8,044
Transportation	6,998	8,006	7,110	8,400	9,914	10,516	11,247	12,300	12,281	12,811	13,815	12,360
Personal	6,933	7,868	6,610	6,926	7,394	7,736	8,213	8,839	9,390	9,831	10,497	8,903
Savings	6,042	6,741	5,371	5,750	6,290	6,425	7,446	8,530	10,054	12,650	12,543	7,892
Recreation	1,754	2,104	1,750	2,135	2,441	2,677	3,054	3,522	4,151	4,543	5,250	4,171
Health	1,896	2,155	2,104	2,270	2,482	2,672	2,847	3,088	3,286	3,578	3,776	3,330
Direct taxes*	2,364	2,268	2,033	2,219	2,026	2,114	2,282	2,364	2,448	2,433	2,685	2,457
Education	1,352	1,418	1,251	1,372	1,487	1,587	1,718	1,898	2,051	2,181	2,308	1,994
Social activities	1,140	1,271	1,224	1,212	1,335	1,444	1,530	1,626	1,735	1,864	2,030	1,874
Civil	594	650	640	710	753	783	836	900	972	1,085	1,155	1,203
TOTAL	72,902	80,613	67,000	72,340	80,044	81,602	86,282	93,051	96,068	103,081	106,101	90,118

***Not paid in connection with any other expenditure.**

Table I

Expenditure Budgets of American Consumers, By Income Groups, 1929

	$1,000 and under	$1,000 under $2,000	$2,000 under $3,000	$3,000 under $5,000	$5,000 under $10,000	$10,000 under $25,000	$25,000 under $50,000	$50,000 under $100,000	$100,000 under $150,000	$150,000 under $300,000	$300,000 under $500,000	$500,000 under $1,000,000	$1,000,000 and over
Food	33.5	32.2	20.7	14.8	10.4	7.6	4.1	2.2	1.8	1.7	.6	.4	.2
Housing	18.5	15.8	14.3	17.4	24.4	21.7	19.6	25.5	26.3	18.5	5.4	3.9	1.8
Transportation	14.4	15.8	16.0	10.8	8.8	8.1	7.1	4.4	4.3	4.0	1.2	.6	.2
Savings	2.7	4.8	10.6	16.2	14.0	21.9	30.1	31.4	35.1	43.5	67.2	71.3	76.5
Personal	9.0	8.8	12.8	13.6	15.8	12.0	8.2	6.2	3.7	2.2	1.0	.5	.2
Clothing	11.6	10.8	10.1	8.3	6.4	3.5	1.8	1.1	.8	.9	.3	.1	.1
Recreation	2.3	3.2	5.3	7.5	9.5	10.4	12.2	8.6	6.9	7.0	3.2	1.7	.6
Health	2.2	2.5	3.0	5.0	3.2	5.0	3.1	2.5	1.5	1.1	.7	.4	.1
Social Activities	1.5	2.1	2.2	1.5	1.6	1.7	2.2	2.5	2.6	2.5	2.8	3.6	2.7
Taxes	.8	.9	1.7	1.8	2.5	3.5	7.8	12.6	14.5	16.1	16.3	16.7	17.2
Education	1.1	1.7	2.5	2.9	3.2	4.5	3.7	3.0	2.4	2.4	1.2	.8	.4
Civil	2.4	1.4	.8	.2	.2	.1	.1	*	.1	.1	.1	*	*
TOTALS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Less than .1%

Table II

Distribution of Consumer Expenditures, By Income Groups, 1929

Income Group (Thousands)	*Goods and Services (Millions)*	*Taxes (Millions)*	*Savings (Millions)*	*Spent Outside U.S. (Millions)*	*Total Domestic (Millions)*	*% of Total*
$1,000 and over	$87	$236	$1,045	$207	$1,161	1.31
500 under 1,000	95	132	567	241	553	.54
300 under 500	127	126	518	320	451	.44
150 under 300	523	209	563	284	1,011	.99
100 under 150	481	138	335	312	642	.63
50 under 100	1,268	285	712	326	1,939	1.89
25 under 50	2,002	250	969	336	2,885	2.81
10 under 25	4,529	211	1,326	348	5,718	5.58
5 under 10	5,614	169	941	239	6,485	6.32
3 under 5	9,205	197	1,821	284	10,939	10.67
2 under 3	12,004	232	1,455	260	13,431	13.10
1 under 2	35,506	347	1,806	303	37,356	36.44
1 and under	17,633	153	485	89	18,182	17.73
Institutions	1,799	....	....	29	1,770	1.73
TOTAL	$90,873	$2,685	$12,543	$3,578	$102,523	100.00

Table III

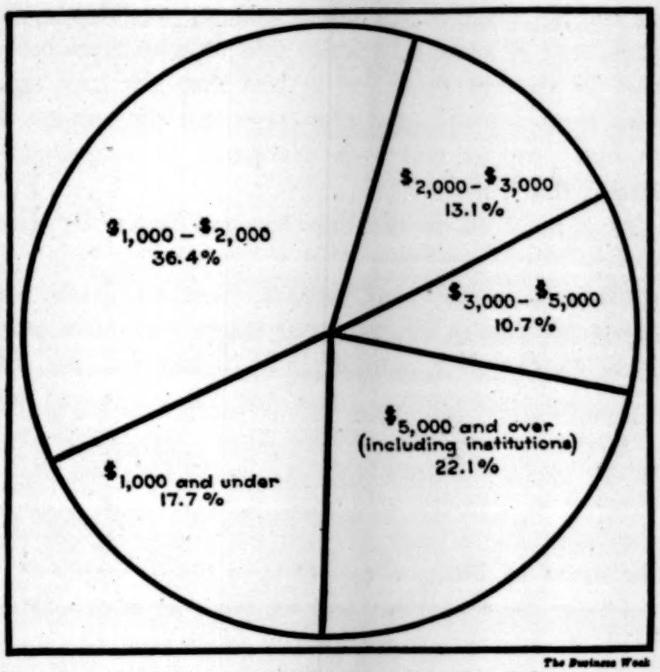
the total value of the goods and services consumed, taxes paid and money saved by individuals.

Importance of the Small-Income Buyer

Table III and Chart I indicate the dominant importance in the American market of the purchasing (taxes and savings also) of the recipients of wages and salaries. Recipients of less than $3,000 per year purchase 67.27 per cent of the total. Those receiving less than $5,000 purchase 77.94 per cent of the total. All groups above the $25,000 class together account for a bare 8 per cent of total domestic expenditures for goods and services alone—a mere four and a half billion dollars out of eighty-nine billion dollars of individual consumption. It should be noted that the low-income group makes a substantial contribution to taxes and savings. They contribute most to new capital needed by business expansion as well as to consumption of goods and services.

Profitless Prosperity

Chart II shows that total individual money income is less than total individual consumption, taxes and savings. This is the "paradox of prosperity." And it



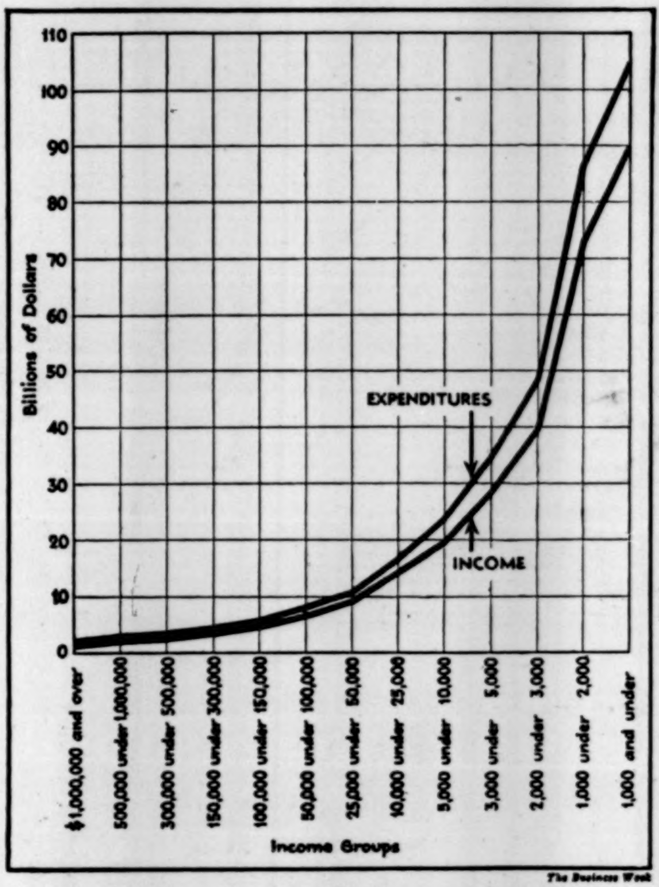
The Business Week

Who Spent the Money in 1929?—*Proportion of total domestic consumer expenditure for goods, services, taxes and savings, by income groups*

Chart I

also shows that the smaller the income the greater is this discrepancy. How is the gap closed? Clearly it can be closed only if the effective consumer income is increased over the recorded or recognized income by purchasing power from other sources, or if part of the consumers' goods and services produced and offered for sale are not actually bought by consumers or are not fully paid for. Millions of consumers earn more or less money yearly by odd jobs and special tasks such as typing, drafting, cutting lawns, tending furnaces, selling newspapers, shoe shining, etc., all of which does not get into the records. Graft, racketeering, bootlegging, etc., are outside the record. Trade-in allowances play a part. Of special significance also is the part played by consumer credit during the past decade. Bringing together a series of reasonable estimates of such forms of addition to consumer income, we get the following approximate result:

	Millions
Money earned by odd-job employment	$2,000
Annual increase in consumer credit	1,800
Sales bribes, bonuses, gambling profits, political graft, racketeering, bootlegging	1,500
Corporate and foreign debt redemption to individual holders	750
Trade-in allowances	750
	$6,800



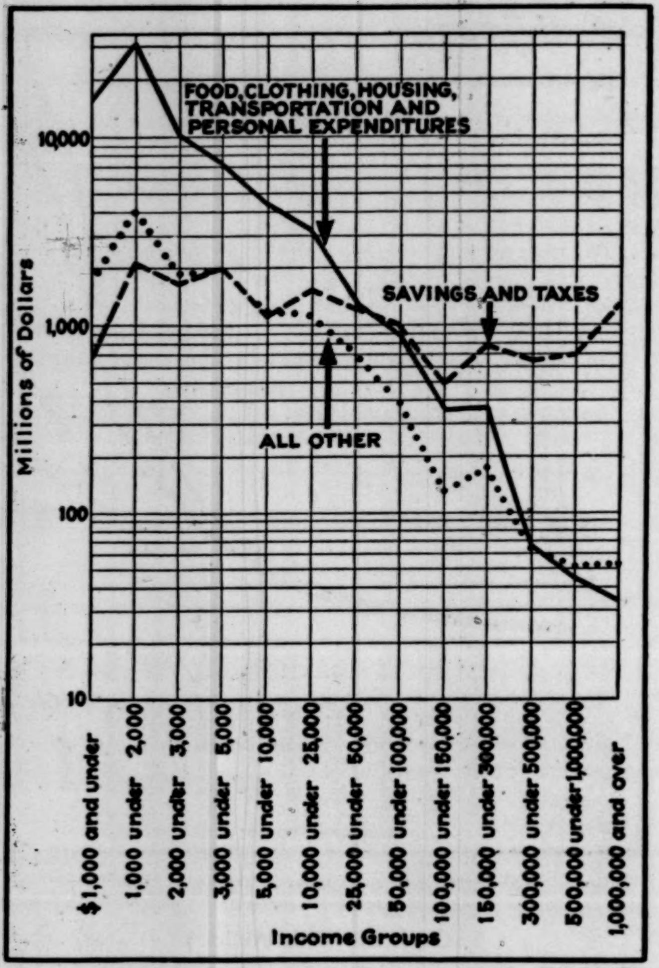
The Business Week

Chart I—*1929 figures show the smaller incomes are the most important, and the smaller they run the greater the excess of expenditures over income*

Chart II (This Article)

But nearly ten billion dollars remain to be accounted for on the expenditure side of the equation. The explanation is likely to be found in the fact that consumers in the lower income brackets benefit the most by the factors which furnish them with goods and services free, or at least less than cost. Since the total income in these groups, even though supplemented from other sources suggested, is not sufficient to cover their apparent expenditures, one is forced to the conclusion that part of the goods and services absorbed by these groups after taxes are paid and savings made, are not represented by actual expenditures at all, in the sense that they are bought by the consumers who use them, or are fully paid for by them.

This line of inquiry approaches the very heart of the "paradox of prosperity." Just as it was necessary to take account of the supplementary sources of purchasing power on the income side of the equation, it is also evident that on the consumption side the goods and services paid for by consumers are supplemented from various sources sufficiently familiar. A summary might read as follows:



The Business Week

BUYING POWER—*Goods and services sold by business in 1929 went chiefly to the low-income groups. Savings and taxes were more evenly distributed*

Chart III

		Billions
Total estimated value of consumer goods and services produced		$106.1
Institutional consumption	$1.8	
Purchased by business concerns	1.0	
Employees expense accounts	1.0	
Annual inventory increase	1.5	
		5.3
		$100.8
Total recorded monetary income	89.6	
Supplementary income	6.8	
Total purchasing power		96.4
Excess of individual consumption over purchasing power		4.4

What does this rather impressive residue of nearly four and a half billion dollars represent? It is too considerable to be brushed aside as a net result of possible errors. The answer is speculative until further statistical data are available. We suggest that it is a rough measure of the net value of the goods and services that in the peak year of prosperity were sold to consumers below cost or without profit, or at less than the cost value plus normal profit, and may represent the amount of business capital that was dissipated in consumption during that year.

If this broad assumption has any basis, it points clearly to the conclusion that the purchasing power of consumers in the lower-income brackets, which depends principally on industrial wages and farm earnings, was too low even in 1929 to buy and pay full cost value plus normal profit for the goods and services they consumed. As the tables and charts indicate, it is these consumers who absorb the bulk of the goods and services sold, and it must have been in competing for a share of their inadequate income that the losses of business capital have chiefly occurred.

One might go farther and suggest that what was not paid out in wages to workers or in dividends to small-income recipients, or in fair prices to farmers, sufficient to enable them to purchase the goods and services produced, was in the end lost to business profits and to business capital anyway. Perhaps this process of dissipation of capital is an inevitable characteristic and a sort of self-preservative compensation mechanism in our economic system; but here one leaves the field of scientific knowledge and enters that of pure speculation.

WHEN IN pre-science days the output was meagre, the maintenance of the working life of the community absorbed a high proportion of it. But under power-producing conditions the disparity between output and a mere sufficiency for maintenance is very great . . . and with every further development in power-production the surplus of output beyond maintenance grows greater and greater. But the distribution of purchasing power to the working life of the nation—which is the general mass of the population—remains a maintenance allowance distribution in wages according to cost of living; a distribution not in any way related to the ratio of production to population, but based on the comparatively static requirements of human bodies for nourishment and physical health. And this means that the consumers' market is equipped with purchasing power, not evenly over the whole population, but very sparsely . . . over the general mass of people. (Fred Henderson, *The Economic Consequences of Power Production,* George Allen & Unwin, Ltd., London, 1931, p. 179.)

Purchasing Power and Wage Policy

The Relation Thereto of Recent Changes in Payrolls, Hours and Earnings in the United States

By EMMETT H. WELCH

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THE QUESTION of wage policy is very much to the fore at the present time. We are faced on the one hand by the pleas of the deflationists who maintain that a further reduction of wage rates would stimulate production and thus encourage business recovery. The proponents of this line of reasoning maintain that the relative rigidity and inelasticity of wage rates, among other items, are resulting in unequal deflation, and that ultimate recovery can take place only when all items in our price system shall have been deflated in approximately the same proportions.

On the other hand, there are those who maintain that a further reduction in wage rates would only result in a greater unbalancing of consumers' purchasing power as compared with production. Those who hold this latter viewpoint would generally agree in favor of wage-rate reductions if they thought that greater total payrolls would result from such reduction.

The difficulty of deciding whether general wage-rate reductions during a depression would be a good policy or not is due to the fact that wages constitute not only a cost of production but also purchasing power.

Those who favor wage-rate reductions generally emphasize the production rather than the consumption side of our economy. They see the need for industries and nations to reduce their costs in order to compete with others in the production of goods and services. They see prices falling faster than costs; they see some elements in our price system falling faster than others. To them the need for bringing costs into line with selling prices is the dominant factor.

Conversely, those economists who favor maintenance of wage rates in a period of depression consider insufficient consumers' purchasing power as an important cause of business depression, and they therefore come to the conclusion that recovery depends, to a large extent, upon the maintenance or expansion of mass consumers' purchasing power relative to the rate of production of goods and services. These economists emphasize the distribution of income and the ability of consumers to purchase goods, the rate of saving and of spending, the rate of production of capital and of consumers' goods, and the flow of purchasing power into productive and into consumptive channels as important elements in business depression and recovery.

Both of the above divergent viewpoints in regard to wage policy during depression have an abundance of economic reasoning in their support. The present state of economic knowledge is not adequate to give a completely satisfactory answer as to what wage policies should be followed during a depression. It is the purpose of this paper to present and analyze some statistical data which may be of assistance in considering this problem. In this endeavor it has been impossible to avoid drawing tentative hypotheses. It is hoped by the author that these hypotheses will encourage fundamental research directed to the end of a more adequate solution of the wage-policy question.

Payrolls, Hours and Earnings in Manufacturing Industries[1]

Chart I shows the United States Bureau of Labor Statistics indexes of employment and payrolls in manufacturing industries from 1923 to date, with 1926 as the base year. The dash line, representing the payroll index, swings above the index of numbers employed (solid line) throughout 1928 and 1929. From the middle of 1929 on, payrolls have declined much more rapidly than numbers employed. To put the relative declines on a numerical basis, payrolls declined approximately 60 per cent from the second quarter of 1929 to the second quarter of 1932, while the number employed declined approximately 40 per cent. This greater decline in payrolls than in employment has been due to two things, a decrease in hours worked per employe, and a decrease in earnings per hour.

The solid line on Chart II is an index of average weekly earnings per employe obtained by dividing the

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[1] At the end of this article is an appendix which gives a complete description of the data, sources and methods of analysis.

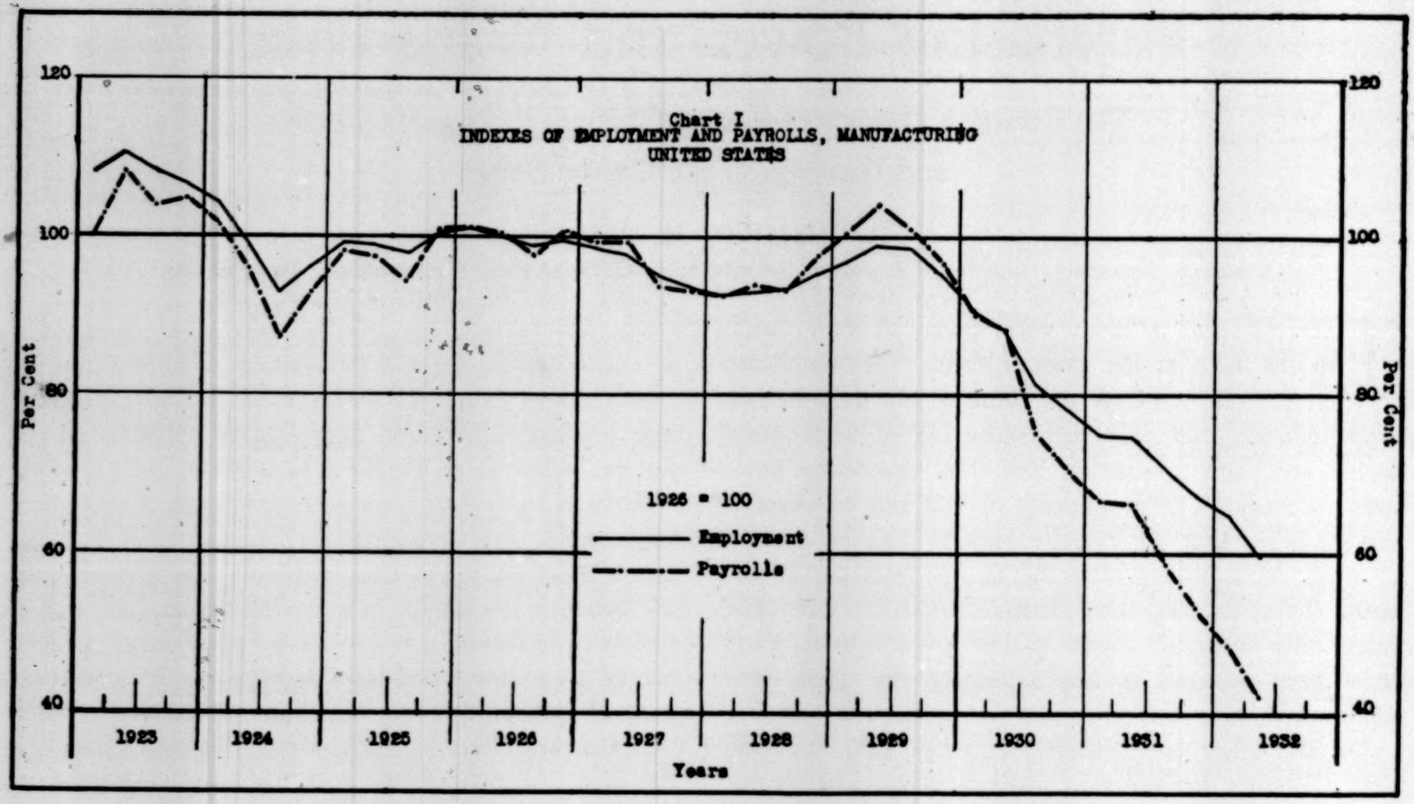


Chart I
INDEXES OF EMPLOYMENT AND PAYROLLS, MANUFACTURING
UNITED STATES
120
100
80
60
40
Per Cent
1926 = 100
Employment
Payrolls
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
Years

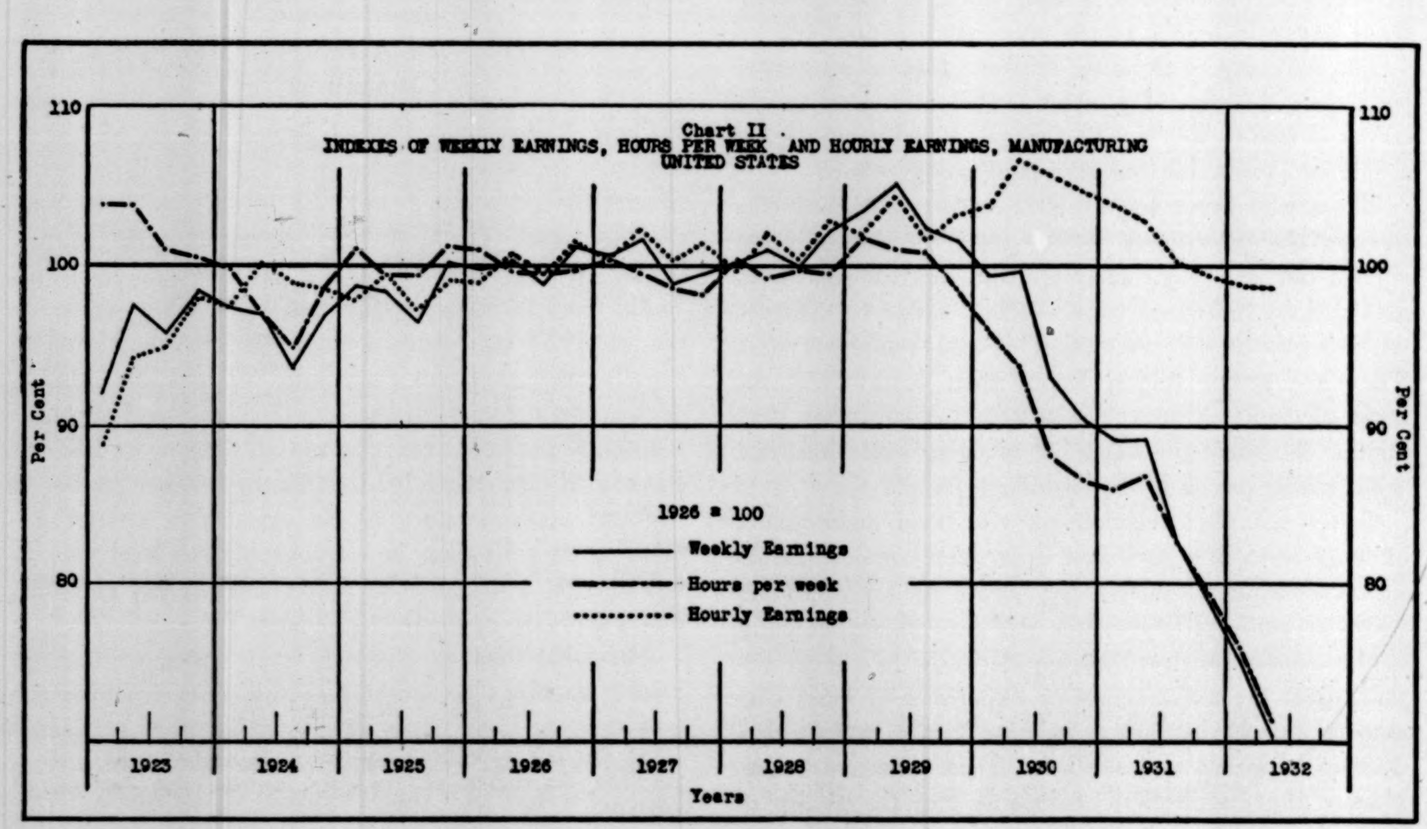


Chart II
INDEXES OF WEEKLY EARNINGS, HOURS PER WEEK AND HOURLY EARNINGS, MANUFACTURING
UNITED STATES
110
100
90
80
Per Cent
1926 = 100
Weekly Earnings
Hours per week
Hourly Earnings
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
Years

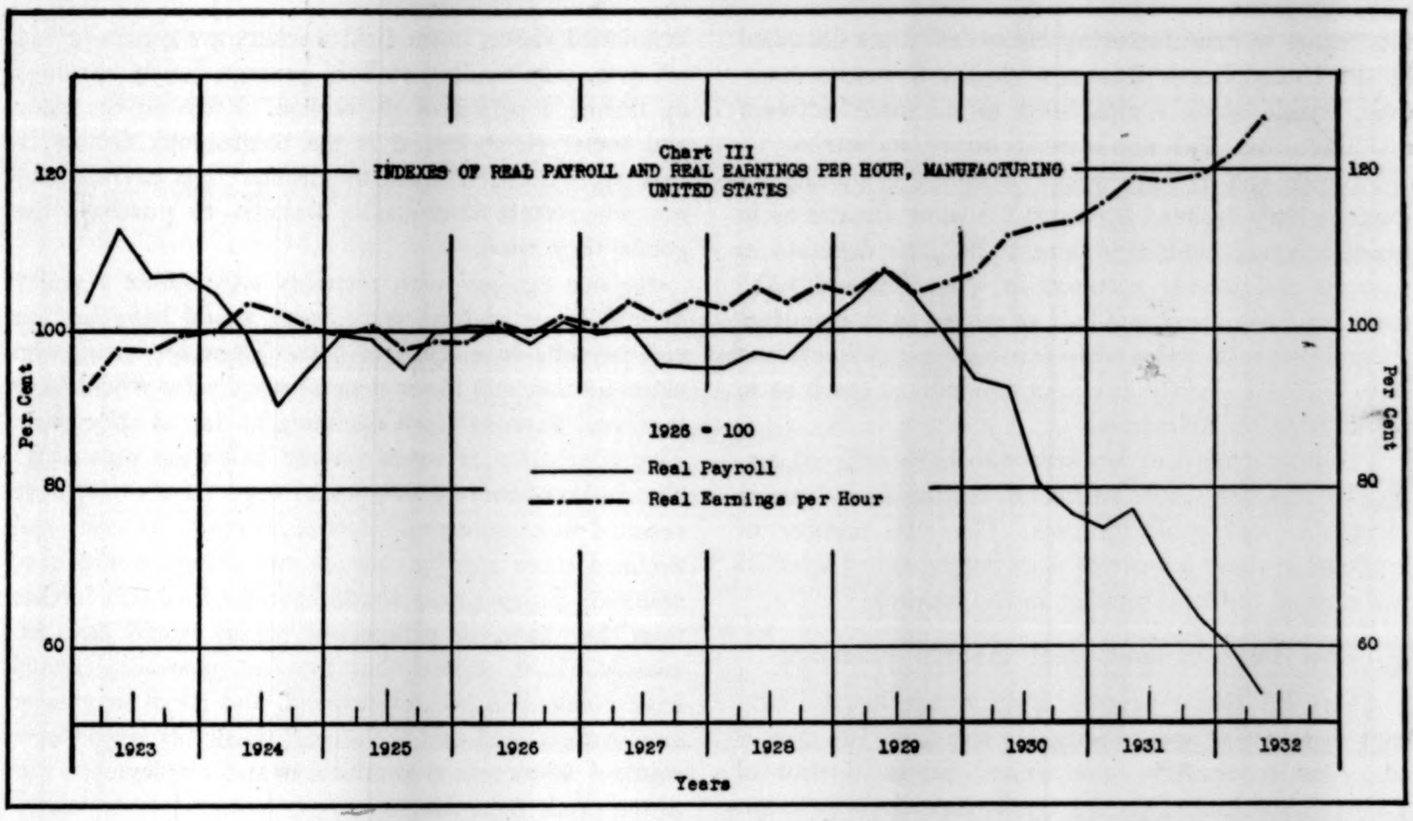


Chart III
INDEXES OF REAL PAYROLL AND REAL EARNINGS PER HOUR, MANUFACTURING
UNITED STATES

index of payrolls by the index of numbers employed. Average weekly earnings in manufacturing industries increased rather steadily from 1923 to the middle of 1929. From the second quarter of 1929 to the second quarter of 1932, average weekly earnings declined 33 per cent.

The dash line on Chart II represents the National Industrial Conference Board index of average hours worked per week in manufacturing industries. This index declined sharply through 1923 and the first three quarters of 1924. From the third quarter of 1924 to the first quarter of 1929, it fluctuated rather narrowly about the base line, and declined approximately 30 per cent from the latter date to the second quarter of 1932.

Dividing the index of earnings per week by the index of hours per week gives the index of earnings per hour, shown by the dotted line on Chart II. Earnings per hour increased fairly continuously from 1923 to the middle of 1930. During this period there were many short-time changes, but the general tendency was upward throughout the seven and one-half year period. From the second quarter of 1930 to the second quarter of 1932, average earnings per hour decreased by about 8 per cent.

This index of average hourly earnings may represent the course of wage rates from 1923 to the middle of 1929 fairly accurately. Beginning with the middle of 1929, however, the movement of wage rates would be found to be entirely different from the index of average hourly earnings presented here. In the first place, the small amount of data available indicates that average wage rates changed little, if at all, from the middle of 1929 to the middle of 1930. If any change took place during that period, it was probably a downward revision. In the second place, average wage rates undoubtedly fell considerably more than 8 per cent from the middle of 1930 to the second quarter of 1932. The discrepancy between the movement of average hourly earnings and wage rates in a period of depression lies in the fact that the less-skilled and lower-paid workers are generally laid off first, thus tending to hold average earnings per hour up. The individual workers who are employed may be receiving lower wage rates and earning less per hour than they formerly did, yet average earnings will hold steady or even show an increase due to the lower-paid workers being laid off.

Payrolls, Hours and Earnings in Non-Manufacturing Industries

Due to the limited quantity of data available in non-manufacturing industries, it has been necessary to limit this report to manufacturing industries. Data compiled by the United States Bureau of Labor Statistics, however, enable some comparisons to be made between manufacturing and non-manufacturing industries.

Payrolls and average weekly earnings in mining industries have declined by about the same amount as in manufacturing industries since 1929. The deflation in payrolls and weekly earnings in wholesale and retail trade has been about one-half as severe as in manufacturing. Payrolls and weekly earnings in public utilities have declined slightly less than one-half as much as in manufacturing industries.

The only groups of workers who have suffered materially less than those in manufacturing have been in mercantile and public utilities. The total number of workers in these industries does not represent over 25 per cent of the total number in the country.

Real Payrolls and Real Hourly Earnings

Chart III shows payrolls and average hourly earnings in manufacturing industries corrected for cost of living as reported by the United States Bureau of Labor Statistics. This chart tells an extremely interesting story. Real payrolls—that is, payrolls expressed in terms of the amount of goods they will buy—declined through 1923 and 1924, and remained fairly steady throughout 1925, 1926 and the first half of 1927. The last half of 1927 and the first three quarters of 1928 were on a somewhat lower level, and from the fourth quarter of 1928 to the middle of 1929 real payrolls increased rapidly. Since the middle of 1929 real payrolls have taken a precipitous drop, interrupted only momentarily in the second quarter of 1931. The drop in real payrolls from the middle of 1929 to the second quarter of 1932 amounted to approximately 50 per cent. This decline represents a decrease of over five billion real dollars in the purchasing power of some eight and one-half million factory workers in the United States.

On the other hand, average real earnings per hour—that is, average hourly earnings expressed in terms of the amount of goods they will buy—have increased throughout the nine and one-half year period. The periods of most rapid rise were in 1923-1924 and from 1930 to date. From the second quarter of 1929 to the second quarter of 1932, average real earnings per hour increased approximately 17 per cent. It should not be inferred from this chart that real wage rates—that is, wage rates expressed in terms of the amount of goods they will buy—have increased 17 per cent; as was mentioned above, lower paid workers are generally laid off first, thus tending to hold average hourly earnings up during a period of depression. From an economic and social viewpoint, it is the tremendous decline in real payrolls that is most important. It is payrolls and not wage rates that enable workers to purchase the goods they need.

No one can say with certainty what effect a policy of still lower general wage rates would have had on real payrolls from 1929 to date. There are many who maintain that still lower general wage rates would have kept real payrolls from declining as far as they have. This conclusion is based on the following reasoning: The further lowering of general wage rates would have resulted in a more rapid decline in costs. If costs had declined more rapidly, one of two things would have resulted. Either prices would have declined still farther than they have, or prospective profits would have increased. It is argued that the first possibility would have resulted in greater demand, and hence in greater employment; and that the second possibility would have resulted in increased production and employment due to the profit incentive.

Let us take up these arguments in order and see what assumptions are involved. We shall first assume that employers would have further reduced their unit selling prices by the same amount that unit costs would have been reduced by still lower wage rates. In order that these reductions in prices received by the producers and wholesalers might result in greater demand, it would be necessary that retailers reduce their prices and pass on the savings to the consumers. It is a well-known fact that retail prices do not fall nearly so soon nor nearly so much, either relatively or absolutely, as wholesale prices. As a matter of fact, wholesale prices have fallen twice as much, on a relative basis, as cost of living since the middle of 1929. The difference between their absolute declines is, of course, smaller than the difference between their relative declines. Thus, it is obvious that only part of the effect of further wage-rate reductions would have been reflected in retail-price declines and hence in greater demand.

But even though retail prices had declined more than they have, what assurance do we have that demand would have increased in proportion to the decrease in prices? This assumes elasticity in the demand for all goods when we know that the demand for many goods is very inelastic. Furthermore, it is possible that more rapidly falling prices would have encouraged prospective purchasers to postpone their

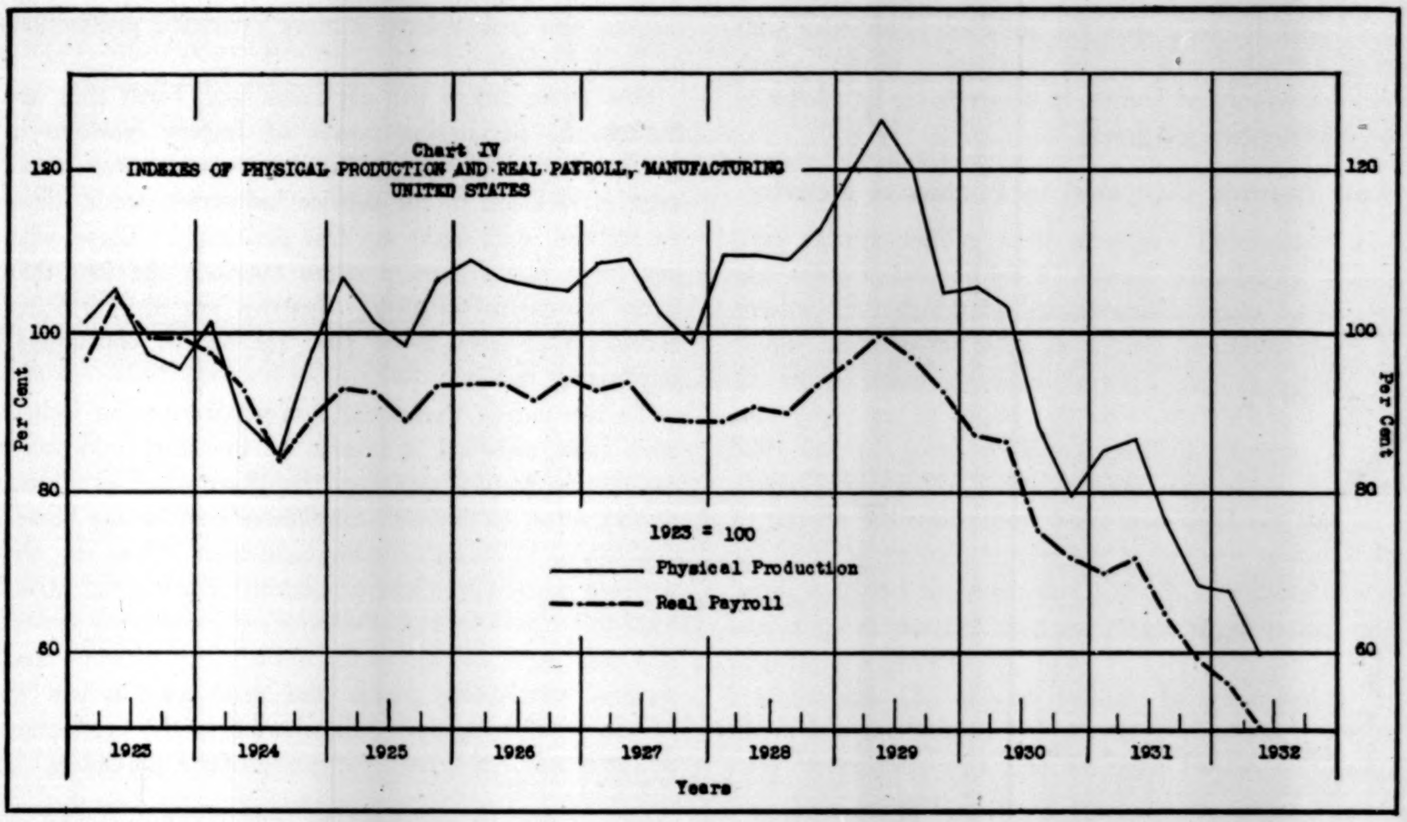


Chart IV
INDEXES OF PHYSICAL PRODUCTION AND REAL PAYROLL, MANUFACTURING
UNITED STATES

purchases still more than they have, hoping to buy at still lower price levels. It seems very doubtful, therefore, whether reduced wage rates would have increased demand, and hence payrolls, by as large an amount as payrolls would have been decreased by the reduction in wage rates.

Let us now assume that employers would not have reduced their selling prices when wage rates were reduced; this would have increased the prospects for profits. Under an economic system such as ours, where the prospect for profits is the chief incentive for business activity, it is true that an improvement in the prospects for profit will encourage production. However, the extent to which a further general reduction in wage rates would be an incentive to increased production may be debated. The individual business or industry approach would have to be used in order to answer this question. For instance, labor costs are not of the same relative importance in different industries. In some industries a 10 per cent decrease in labor costs would have a marked effect on the total cost of the product; in other industries such a reduction in labor cost would have little effect on total cost. In some industries the decreased costs due to reducing wage rates would merely result in smaller losses, and would not result in any profit incentive at all.

Nevertheless, let us assume that still lower general wage rates would have resulted in a substantial increase in the prospects for profits and hence in an increased rate of general production. The question that arises at this point is: Could the additional goods produced have been sold?

If it be true, as many maintain, that our largest problem at the present time is not how to increase production but rather how to distribute enough consumers' purchasing power to consume the goods we have produced and are able to produce, then merely providing a potential profit incentive without providing a market for the goods produced will be ineffective as a means of business recovery. The deflationists' reply to this contention is classical. They would maintain that there can be no deficiency of consumers' purchasing power because production automatically creates the purchasing power needed to consume the goods produced. It is necessary to inquire further, however. The question of how purchasing power is distributed, and for what purpose it is used must be answered. A dollar of purchasing power in the hands of a semi-starved worker will surely be used for consumption purposes, while the same dollar in the hands of a millionaire may be devoted to additional production or be left lying idle. The succeeding sections of this paper deal not only with the sufficiency, but also with the distribution and use of purchasing power, which are very important factors in determining its adequacy for consumption purposes.

Real Payrolls Compared to Productive Activity

In considering wages in their relationship to consumers' purchasing power, it is not wage rates but volume of wage payments in relationship to volume of goods produced that is of most importance. Chart IV compares the Federal Reserve Bank index of physical production with the index of real payrolls, that is, payrolls divided by cost of living. From 1923 to 1929, these two indexes drew a long way apart. The gap has been narrowed some since the middle of 1929, but at the end of the second quarter of 1932 the two indexes still show a large margin between them. The difference between the two indexes is composed of a number of factors: (1) production, replacement or maintenance of capital goods, (2) accumulated stocks of consumers' goods, (3) installment and credit sales, (4) export balances and (5) consumers' purchasing power other than wage payments. The first four of these factors have to be reckoned with in future periods of time; that is, capital goods are merely congealed consumers' goods. As capital goods are used up, they eventually take the form of consumers' goods, and will have to be purchased out of consumers' purchasing power in future periods. Accumulated stocks of consumers' goods clearly have to be consumed either out of future consumers' purchasing power or out of savings. Installment and credit sales enable consumption to proceed faster than consumers' purchasing power, but this must be compensated for later. Finally, our net export balances will probably disappear now that we are a creditor nation. The fifth factor, alone, would enable production to proceed continually at a faster rate than wage payments. Too much reliance should not be placed on the assumption, however, that consumers' purchasing power is being strengthened from sources other than wage payments. We have set up an industrial system based on mass production and mass consumption. Wage and salary earners constitute the masses, and they must receive sufficient purchasing power to enable the goods produced under mass-production methods to be consumed. In other words, we cannot have mass production without mass consumption. The only alternative for increasing the purchasing power of the masses is to resign ourselves to a low standard of living for the masses, and look toward a more restricted production of luxury goods.

One often hears the argument put forth that although the purchasing power of factory workers is not keeping pace with production of goods, wages and salaries received in the service industries, trade, public utilities, etc., make up this deficiency. Those who put forth this argument often overlook the fact that these non-manufacturing industries are also creating services that have to be paid for out of consumers' purchasing power.

To the extent that these non-manufacturing industries have afforded a means of investing additional capital and employing labor, they have acted as a temporary offset to deficient consumers' purchasing power distributed in manufacturing industries. However, the services created by these non-manufacturing industries have to be paid for out of consumers' purchasing power, and contribute further to the discrepancy between consumers' purchasing power and production unless all of the purchasing power distributed in the production of these services is used for consumptive purchases.

Distribution and Use of Purchasing Power

Chart V compares the total volume of dividend-interest payments and new capital issues with payrolls from 1923 to date. The dividend-interest curve rose continuously but at a fairly moderate rate from 1923 to 1926; from 1926 to the first half of 1930, dividend-interest payments increased at such a rate that the first half of 1930 reached a peak 97 per cent higher than the 1926 level. The total volume of interest and dividend payments in both 1930 and 1931 were higher than in 1929, and in the first half of 1932 they were still 72 per cent above the 1926 level. It is true that a large part of these payments was undoubtedly made out of surplus accumulated before 1930, but the important thing is that these payments were maintained. On the other hand, payrolls have decreased constantly since the middle of 1929 until in the first half of 1932 they reached a level which was 55 per cent below that of 1926.

This index of interest and dividend payments is compiled by the *New York Journal of Commerce* and is published by Standard Statistics. It represents total payments of dividends and interest on corporation stocks and bonds. The rapid increase in total dividend-interest payments has been due to increases both in capitalization and in rate. Stock dividends are not included in this index. We know that many dividend

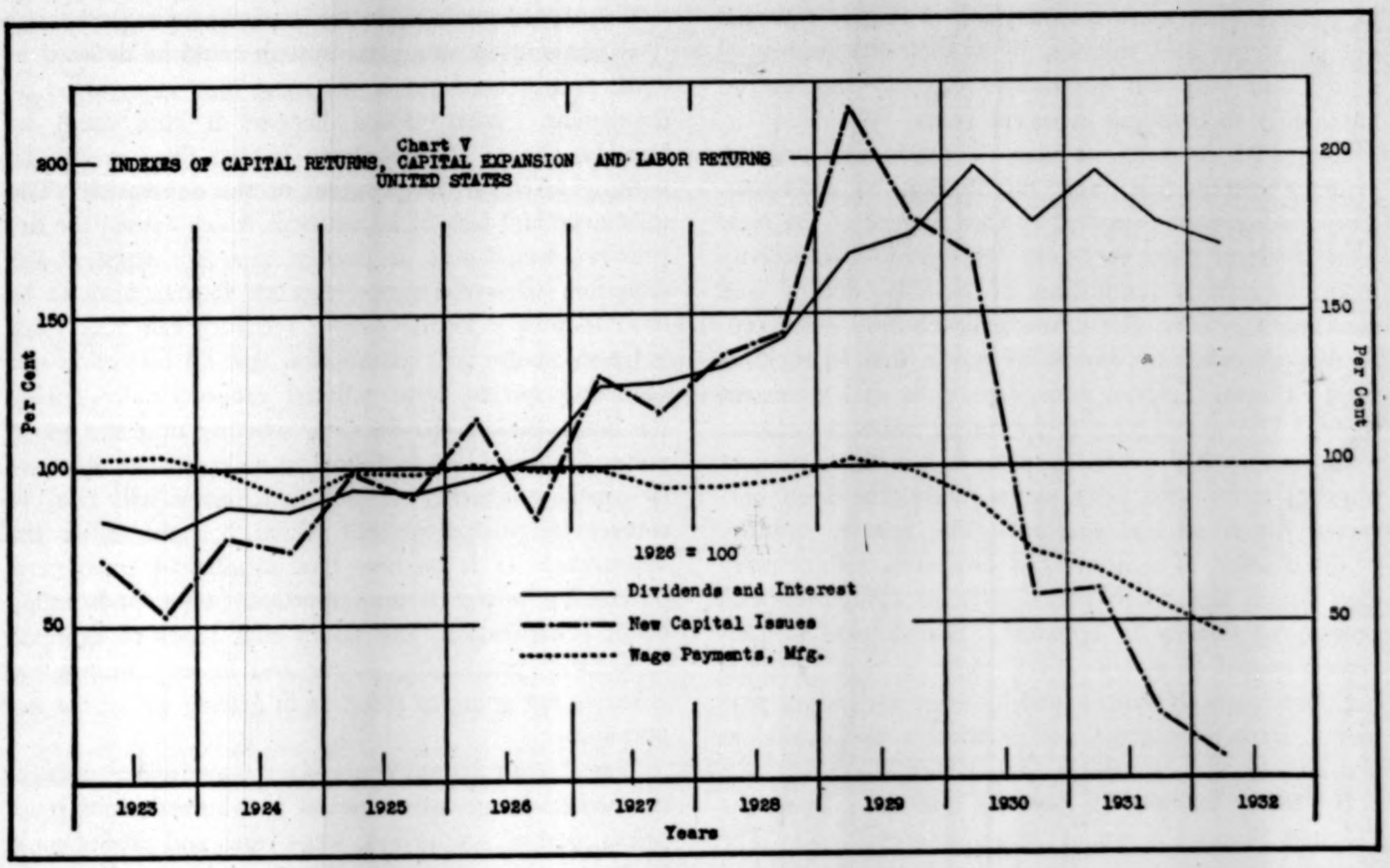


Chart V
INDEXES OF CAPITAL RETURNS, CAPITAL EXPANSION AND LABOR RETURNS
UNITED STATES

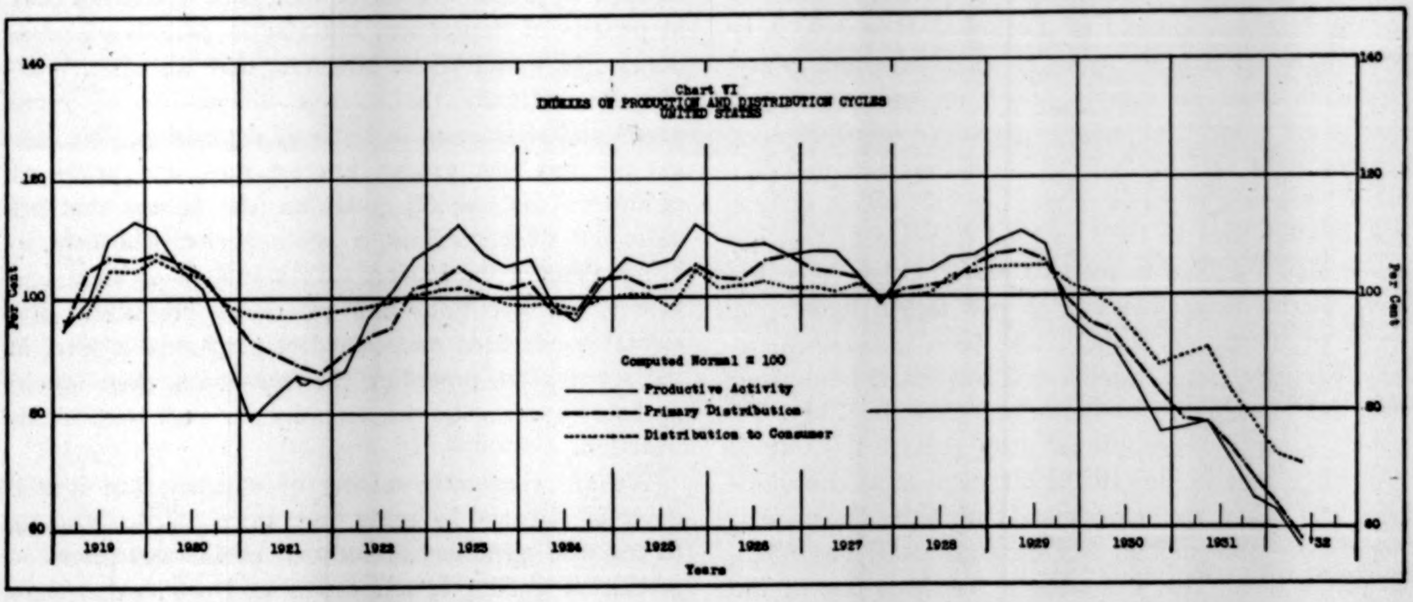


Chart VI
INDEXES OF PRODUCTION AND DISTRIBUTION CYCLES
UNITED STATES

rates were cut and even omitted in 1930 and 1931, but the amount of corporate securities outstanding is so great that total dividend and interest payments are still about 72 per cent higher than in 1926. The dash line on Chart V shows that new capital issues were being increased at about the same rate as dividend-interest payments from 1923 to the end of 1928. The first half of 1929 showed a very large increase in new capital issues, but subsequently the volume has rapidly declined until in the first half of 1932 it was 93 per cent below the 1926 level.

When we look at this chart and stop to consider in addition that mass consumption is largely financed out of wages and salaries, it is somewhat easier to understand why our productive capacity has outrun our ability to consume in recent years.

Chart VI presents indexes of productive activity, primary distribution, and distribution to consumer. These indexes are compiled by Carl Snyder of the New York Federal Reserve Bank. The productive activity index represents production of both producers' and consumers' goods. The primary-distribution index represents wholesale movement of goods, that is, carloadings, exports, imports, waterway traffic and wholesale trade. The distribution-to-consumer index represents retail sales. All of these indexes are in terms of physical units—not price units—and have been corrected for trend and seasonal. The relative stability of distribution to consumers as compared with primary distribution and more particularly as compared with productive activity is apparent. Distribution to consumers would be stabilized still more if mass purchasing power, largely represented by wage and salary payments, were maintained out of surplus and capital as are interest and dividends (see Chart V).

By using indexes of payrolls and data from the "United States Census of Manufacturers" and "The National Income and Its Purchasing Power," published by the National Bureau of Economic Research, it is possible to estimate decreases in total wage and salary payments from all sources. Such an estimate shows that total wage and salary payments were 15 per cent or eight and one-half billion dollars less in 1930, and 31 per cent or eighteen and one-half billion dollars less in 1931 than in 1929—a total decrease of twenty-seven billion dollars in the two years. Other estimates have placed these losses at a still larger figure. If these payments to workers had been maintained, at least partially, out of capital and surplus, it is unlikely that the "distribution-to-consumer" curve on Chart VI would show the precipitous drop that it has. It is noticeable that in the 1920-1921 depression consumption was fairly well maintained; while in the present depression consumption has declined nearly as much as production. This undoubtedly has been one of the most important factors leading both to the depth and to the duration of the present depression.

Distribution to consumers is the stabilizer of our economic society. In a period of prosperity production gets out of line with consumption. In a period of depression, the relative stability of consumption is one of the factors which eventually brings us out of it.

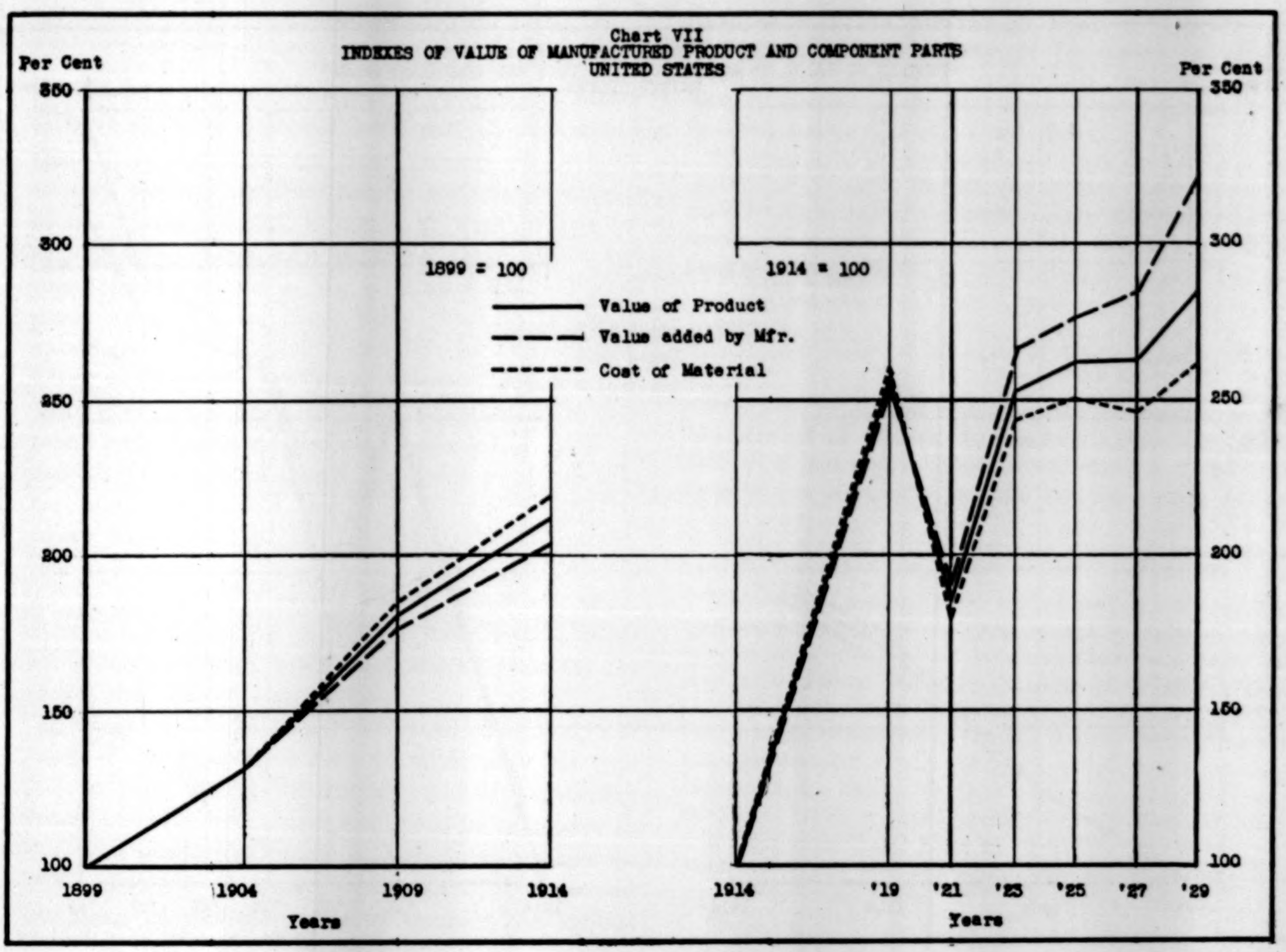
We often hear it said that it would be a good thing if all elements in our price system could be deflated in equal proportions and at the same time in a period of depression. What would happen if this could be brought about? The answer is that there would be nothing to check the progress of the depression. The unbalance and lack of adjustment which caused the depression would still be present at every stage of the deflation. This contention that all factors have to be deflated proportionally before recovery can take place is based on the tacit assumption that all factors in our economic system were inflated proportionally during the boom period. In deciding whether or not a given policy is a good one to follow in a depression, we have to consider whether or not that policy will tend to correct the maladjustment which brought about the depression. If it be true that insufficient consumers' purchasing power is an important factor in bringing about a depression, any policy that tends to decrease consumers' purchasing power and hence consumption is surely not going to assist us in getting out of the depression.

There is no disputing the fact that cyclical difficulties would be greatly lessened if wholesale and retail prices, cost of production, wage rates and profits could be kept in proper alignment with each other, not only in periods of depression, but also in periods of prosperity. It would seem, however, that we often criticize too unjustly the relative inflexibility of retail prices and wage rates in times of depression. We forget the fact that profits, interest rates and prices of producers' and capital goods are the factors that get most out of control in a boom period and help to bring about a depression. As a matter of fact, had profits, interest rates and prices of producers' and capital goods been maintained at a reasonable level in the seven years preceding the depression, there would probably not now be the necessity for such tremendous deflation.

We are constantly talking of stability, but it will never be obtained by tying wage rates and retail prices to the wild gyrations of rates of profits and prices of producers' goods. It was capital and profits that were most over-expanded in the boom period, and that should, therefore, be deflated—not wages.

Component Parts of the Value of Manufactured Products

Charts VII and VIII show the relationship between wages and other elements in the value of manufactured



goods on a price and not on a physical or real basis. The data presented in these charts were obtained from the "Census of Manufactures." It will be noted on both charts that since the War there has been a distinct change in the relationship between the different elements in the value of goods that are being manufactured.

Before the War, the cost of materials and the value added by manufacture increased at about the same rate (Chart VII). From 1899 to 1914 the cost of materials increased relatively more than the value of product, and the value added by manufacture increased relatively less. In other words, up until 1914, the cost of materials was slowly becoming a larger percentage of the value of the manufactured products. From 1914 to 1921 the cost of raw materials and value added by manufacture remained of practically the same relative importance. Beginning with 1921, however, value added by manufacture became of greater and greater relative importance, and cost of materials became of less and less relative importance in the value of the manufactured product. By 1929 the change in relative importance was quite great.

Chart VIII shows the value added by manufacture broken down into wages and overhead and profits. Here again we find the period after the War to be entirely different from the period before the War. From 1899 to 1914, and even up to 1919, wages and overhead and profits held about the same relationship to each other. In 1921 wages were not deflated as much as were overhead and profits. By 1923 the two factors were again practically together. Beginning with 1923, however, the value added by manufacture and overhead and profits increased rapidly while total wages paid held fairly steady. This means that profit and overhead were becoming of greater relative importance in the value added by manufacture. Unit labor costs, then, declined rather rapidly from 1923

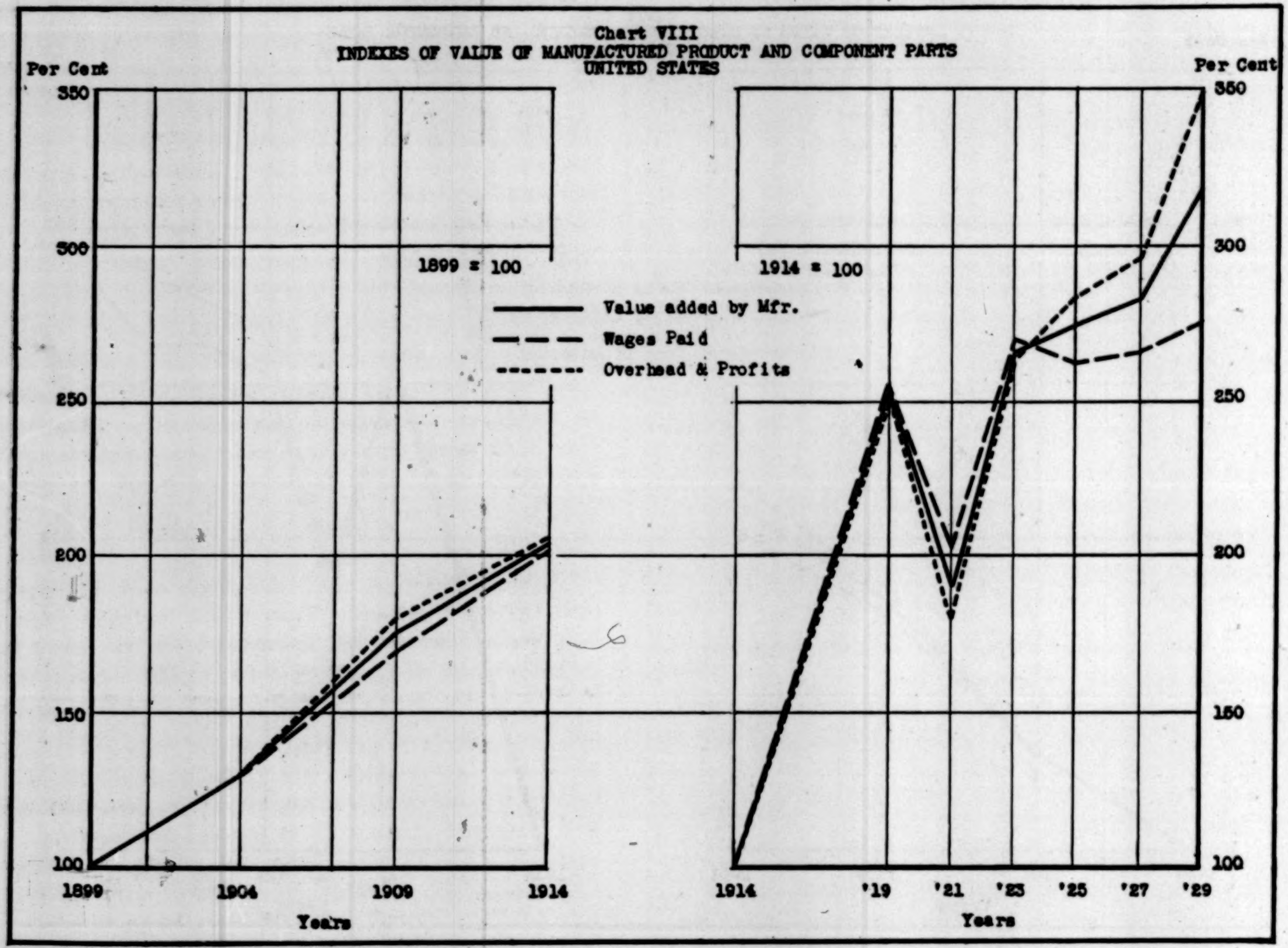


Chart VIII
INDEXES OF VALUE OF MANUFACTURED PRODUCT AND COMPONENT PARTS
UNITED STATES

to 1929, while profits and overhead increased at a fast rate.

The first observation that one is led to make on this picture is, "Why have overhead costs increased so rapidly?" We have been producing bigger and better capital facilities, and we have been reducing labor costs; why have we not improved our economic position instead of getting into a mess? I think there are two factors which have worked hand in hand to bring about the results observed. In the first place, from 1923 to 1929 mass-production technique was developed at a rapid rate. New techniques and production methods generally give promise of larger profits. Following the beckoning hand of profits, we expanded into all lines without due consideration of demand or consumers' purchasing power. The consumer's dollar shrank in relationship to the huge volume of goods that was being put on the market. Producers started chasing the consumer's dollar by means of high pressure salesmanship and advertising. The shrinking consumer's dollar was stretched by means of installment sales and credit in an attempt to make it go around. Greater profits were seen ahead, still more unwise expansion took place, and so on. We all know what the results have been. We piled up our profits and capital, and are now condemning the consumers for not buying more. We tell the wage earners that their wage rates must be deflated, and that they must bear a still larger portion of the depression's burden. In other words, we are trying to get out of the depression by using the same tactics that got us into it. In the long-run it would be better for our entire economic system if we could reverse this procedure and increase mass purchasing power even though it meant producing and selling goods at a loss for a time. Of course, such a plan is not possible where the sole incentive for producing goods is the working of an uncontrolled profit motive.

Summary

A large part of our national wealth is owned, and consequently a considerable part of our national income is received, by a relatively small part of our population. It is impossible for these persons who are extremely wealthy and who receive such large incomes to use all their wealth or spend all their income for consumption. They have to invest their wealth and spend their incomes in the production of additional goods or capital facilities; hence there is too small an amount of purchasing power left for consumption. Even under such conditions, however, business activity does not need to stop. If expansion were perpetual with production facilities continued in operation once they were created and the goods produced sold for what they would bring, consumers' purchasing power would be kept in line with producing power. This is not the way things work out, however. Goods will be produced and capital facilities used only when there is a prospect for profits. In other words, under our economic system goods are produced primarily for profits and not for consumption.

The severity of business cycles would be greatly lessened if the prospective rates of profit were not subject to such violent fluctuations, and if purchasing power available for consumption could be kept more in line with productive power in periods of prosperity, and maintained in times of depression. It is beyond the scope of this discussion to consider the various proposals, such as credit control, national planning, unemployment insurance, more steeply graduated income and inheritance taxes, etc., which have been suggested as a means of bringing about the desired results. Suffice it to say that the chief problem would seem to be that of distributing adequate consumers' purchasing power to consume the goods produced. Reducing wage rates does not seem to be a policy which will bring this about. Likewise, those proposals for national planning which have as their purpose merely the control of production and capital expansion without a program for expanding or maintaining consumers' purchasing power would not seem to give much promise of success.

Appendix A

Description of Data, Sources and Method

Payrolls, Hours and Earnings in Manufacturing Industries

The United States Bureau of Labor Statistics compiles monthly indexes of employment and payrolls in fifty-four manufacturing industries. These indexes are based on data furnished by 13,250 establishments employing 3,600,000 wage earners, or about 60 per cent of the number employed in the fifty-four industries. The industries represented employ about 75 per cent of the total number employed in all manufacturing industries in the United States.

The data reported by these establishments are for the payroll period ending nearest the fifteenth of each month. Since the payroll period varies in length among different establishments, all data are placed on a weekly basis before they are combined into indexes.

In the preparation of Chart I, these indexes of employment and payrolls were changed from a monthly to a quarterly basis. The quarterly data are presented in Tables 1 and 2, Appendix B.

The index of average weekly earnings, shown in Chart II, was obtained by dividing the quarterly indexes of payrolls, Table 1, by the indexes of employment, Table 2. These quarterly indexes of earnings per week are presented in Table 3. The National Industrial Conference Board constructs an index of weekly earnings in manufacturing industries which agrees very closely with this index.

The index of average hours worked per week in manufacturing industries, shown on Chart II and in Tables 4 and 5, is compiled by the National Industrial Conference Board and reported in *Survey of Current Business.* This index is based on average man-hours worked each week in 1,444 manufacturing plants throughout the United States. While the establishments included in this index are not identical with those included in the Bureau of Labor Statistics indexes, the use of this index would seem warranted, since the National Industrial Conference Board index of weekly earnings agrees very closely with the weekly-earnings index which we have constructed by using Bureau of Labor Statistics data.

The index of average hourly earnings, shown on Chart II, was obtained by dividing the Bureau of Labor Statistics index of average weekly earnings, Table 3, by the National Industrial Conference Board index of average hours worked per week, Table 5. These quarterly indexes of average hourly earnings are presented in Table 6. It is unfortunate that it has been necessary to use data from two different sources in the calculation of average hourly earnings. However, it was felt desirable to obtain some idea of recent changes in average hourly earnings, and no better data seemed to be available. It is admitted that this index is crude, and it is not used in any analysis other than in Charts II and III. Its weaknesses, therefore, will not affect the soundness of the remaining analysis presented in this report.

Real Earnings Per Hour and Real Payrolls

The quarterly cost-of-living indexes, presented in Table 7, were obtained by the following procedure: (1) The United States Bureau of Labor Statistics indexes of cost of living, which were issued quarterly up to December, 1924, and semiannually thereafter, were put on a monthly basis by interpolation. (2) The base year was then changed from 1913 to 1926. (3) The monthly indexes were then averaged into quarterly indexes.

The Bureau of Labor Statistics index of cost of living is

Appendix B

Tables

TABLE 1

INDEX OF PAYROLLS, MANUFACTURING—UNITED STATES
1926 = 100%

Quarter	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Per Cent					
1	100.0	101.9	98.0	101.2	99.2	92.9	100.4	90.3	67.1	48.8
2	108.1	96.1	97.5	100.3	99.3	94.0	104.1	88.2	66.7	42.2
3	104.1	87.1	94.4	97.7	94.0	93.6	101.0	75.8	58.9	
4	105.1	93.2	100.8	100.8	93.3	97.6	96.7	70.8	53.3	
Total	417.3	378.3	390.7	400.0	385.8	378.1	402.2	325.1	246.0	
Average	104.3	94.6	97.7	100.0	96.5	94.5	100.6	81.3	61.5	

TABLE 2

INDEX OF EMPLOYMENT, MANUFACTURING—UNITED STATES
1926 = 100%

Quarter	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Per Cent					
1	108.6	104.6	99.3	101.3	98.6	92.8	97.1	90.7	75.3	65.0
2	110.8	99.1	99.0	100.0	97.7	93.1	99.0	88.3	74.8	59.8
3	108.8	93.0	98.0	98.9	95.3	93.6	98.7	81.5	71.3	
4	107.0	96.1	100.6	99.7	93.8	95.6	95.2	78.1	67.5	
Total	435.2	392.8	396.9	399.9	385.4	375.1	390.0	338.6	288.9	
Average	108.8	98.2	99.2	100.0	96.4	93.8	97.5	84.6	72.2	

TABLE 3

INDEX OF AVERAGE WEEKLY EARNINGS, MANUFACTURING—UNITED STATES
1926 = 100%

Quarter	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Per Cent					
1	92.1	97.4	98.7	99.9	100.6	100.1	103.4	99.6	89.2	75.1
2	97.6	97.0	98.5	100.3	101.6	101.0	105.1	99.8	89.2	70.5
3	95.7	93.6	96.4	98.8	98.7	100.0	102.3	93.0	82.6	
4	98.3	96.9	100.2	101.1	99.5	102.1	101.6	90.6	78.9	
Total	383.7	384.9	393.8	400.1	400.4	403.2	412.4	383.0	339.9	
Average	95.9	96.2	98.4	100.0	100.1	100.8	103.1	95.8	85.0	

TABLE 4

AVERAGE HOURS WORKED PER WEEK, MANUFACTURING—UNITED STATES

Quarter	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Hours per Week					
1	49.9	48.1	48.6	48.6	48.3	48.3	48.9	46.2	41.4	36.6
2	49.9	46.7	47.8	48.0	47.9	47.7	48.6	45.1	41.8	34.4
3	48.6	45.6	47.8	47.9	47.4	48.0	48.5	42.4	39.7	
4	48.3	47.4	48.7	48.0	47.2	47.9	47.4	41.7	38.2	
Total	196.7	187.8	192.9	192.5	190.8	191.9	193.4	175.4	161.1	
Average	49.2	47.0	48.2	48.1	47.7	48.0	48.4	43.8	40.3	

TABLE 5

INDEX OF AVERAGE HOURS WORKED PER WEEK, MANUFACTURING—UNITED STATES
1926 = 100%

Quarter	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Per Cent					
1	103.7	99.9	101.0	101.0	100.4	100.4	101.6	96.0	86.0	76.0
2	103.7	97.0	99.3	99.7	99.5	99.1	101.0	93.7	86.8	71.5
3	101.0	94.7	99.3	99.5	98.5	99.7	100.8	88.1	82.5	
4	100.4	98.5	101.2	99.7	98.1	99.5	98.5	86.6	79.4	
Total	408.8	390.1	400.8	399.9	396.5	398.7	401.9	364.4	334.7	
Average	102.2	97.5	100.2	100.0	99.1	99.7	100.5	91.1	83.7	

TABLE 6

INDEX OF AVERAGE HOURLY EARNINGS, MANUFACTURING—UNITED STATES

1926 = 100%

Quarter	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Per Cent					
1	88.8	97.5	97.7	98.9	100.2	99.7	101.8	103.7	103.7	98.8
2	94.1	100.0	99.2	100.6	102.1	101.9	104.1	106.5	102.8	98.6
3	94.8	98.8	97.1	99.3	100.2	100.3	101.5	105.6	100.1	
4	97.9	98.4	99.0	101.4	101.4	102.6	103.1	104.6	99.4	
Total	375.6	394.7	393.0	400.2	403.9	404.5	410.5	420.4	406.0	
Average	93.9	98.7	98.2	100.0	101.0	101.1	102.6	105.1	101.5	

TABLE 7

INDEX OF COST OF LIVING—UNITED STATES

1926 = 100%

Quarter	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Per Cent					
1	96.2	97.5	98.3	100.7	99.6	97.5	97.3	96.6	89.5	81.1
2	96.4	96.5	98.6	99.8	98.9	97.0	97.0	95.3	86.4	78.2
3	97.5	96.8	99.6	99.6	98.5	97.0	97.1	93.7	84.6	
4	98.4	97.8	100.8	99.8	98.0	97.4	97.4	92.0	83.4	
Total	388.5	388.6	397.3	399.9	395.0	388.9	388.8	377.6	343.9	
Average	97.1	97.2	99.3	100.0	98.8	97.2	97.2	94.4	86.0	

TABLE 8

INDEX OF REAL EARNINGS PER HOUR, MANUFACTURING—UNITED STATES

1926 = 100%

Quarter	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Per Cent					
1	92.3	100.0	99.4	98.2	100.6	102.3	104.6	107.3	115.9	121.8
2	97.6	103.6	100.6	100.7	103.2	105.0	107.3	111.8	119.0	126.1
3	97.2	102.1	97.5	99.6	101.7	103.4	104.5	112.7	118.3	
4	99.5	100.6	98.2	101.5	103.5	105.3	105.9	113.7	119.2	
Total	386.6	406.3	395.7	400.0	409.0	416.0	422.3	445.5	472.4	
Average	96.6	101.6	98.9	100.0	102.2	104.0	105.6	111.4	118.1	

TABLE 9

INDEX OF REAL PAYROLLS, MANUFACTURING—UNITED STATES

1926 = 100%

Quarter	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Per Cent					
1	103.9	104.5	99.7	100.5	99.6	95.3	103.2	93.5	75.1	60.2
2	112.2	99.6	98.9	100.5	100.4	97.0	107.3	92.6	77.2	53.9
3	106.8	90.0	94.8	98.1	95.5	96.4	104.0	80.9	69.6	
4	106.9	95.3	100.0	100.9	95.2	100.2	99.3	76.9	63.9	
Total	429.8	389.4	393.4	400.0	390.7	388.9	413.8	343.9	285.8	
Average	107.4	97.4	98.4	100.0	97.7	97.2	103.4	86.0	71.4	

TABLE 10

INDEX OF PHYSICAL PRODUCTION—UNITED STATES

1923 = 100%

Quarter	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Per Cent					
1	101.6	101.6	106.6	108.9	108.2	109.5	120.1	105.6	85.2	67.8
2	105.6	88.5	101.6	106.6	108.6	109.5	126.0	103.3	86.5	59.9
3	97.4	84.5	98.4	105.9	102.3	108.9	120.1	87.8	76.3	
4	95.4	96.7	106.6	105.3	98.4	112.5	104.9	79.9	68.4	
Total	400.0	371.3	413.2	426.7	417.5	440.4	471.1	376.6	316.4	
Average	100.0	92.8	103.3	106.7	104.4	110.1	117.8	94.2	79.1	

TABLE 11

INDEX OF REAL PAYROLLS, MANUFACTURING—UNITED STATES

1923 = 100%

Quarter	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Per Cent					
1	96.7	97.3	92.8	93.6	92.7	88.7	96.1	87.0	69.9	56.0
2	104.4	92.7	92.0	93.6	93.5	90.3	99.9	86.2	71.8	50.1
3	99.4	83.8	88.3	91.4	88.9	89.8	96.8	75.3	64.8	
4	99.5	88.7	93.1	94.0	88.6	93.3	92.4	71.6	59.5	
Total	400.0	362.5	366.2	372.6	363.7	362.1	385.2	320.1	266.0	
Average	100.0	90.6	91.5	93.2	90.9	90.5	96.3	80.0	66.5	

TABLE 12

INDEX OF DIVIDEND AND INTEREST PAYMENTS—UNITED STATES

1926 = 100%

Half	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Per Cent					
1	83.9	88.1	93.3	96.8	126.2	132.3	169.5	196.8	195.0	171.6
2	79.4	86.8	92.7	103.2	127.5	142.2	176.1	179.1	179.6	
Total	163.3	174.9	186.0	200.0	253.7	274.5	345.6	375.9	374.6	
Average	81.6	87.4	93.0	100.0	126.8	137.2	172.8	188.0	187.3	

TABLE 13

INDEX OF NEW CORPORATE CAPITAL ISSUES—UNITED STATES

1926 = 100%

Half	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
					Per Cent					
1	70.8	78.5	97.8	115.8	129.7	136.2	215.7	168.4	60.2	7.1
2	53.5	74.0	90.5	84.2	117.8	143.0	181.0	58.8	20.7	
Total	124.3	152.5	188.3	200.0	247.5	279.2	396.7	227.2	80.9	
Average	62.2	76.2	94.2	100.0	123.8	139.6	198.4	113.6	40.4	

TABLE 14

INDEX OF PRODUCTIVE ACTIVITY—UNITED STATES

Computed normal = 100%

Quarter	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
							Per Cent							
1	94.7	111.7	79.0	87.7	108.7	106.3	106.3	109.7	107.7	104.0	109.3	93.0	77.0	63.3
2	99.7	105.3	83.3	96.7	112.0	98.3	105.3	108.3	107.7	104.3	110.7	91.3	78.0	57.0
3	110.0	101.7	86.7	101.0	107.3	96.0	106.3	108.7	103.7	106.3	108.7	84.3	71.7	
4	113.0	90.0	85.7	106.7	105.7	102.0	112.0	107.0	98.7	106.7	96.7	76.3	65.3	
Total	417.4	408.7	334.7	392.1	433.7	402.6	429.9	433.7	417.8	421.3	425.4	344.9	292.0	
Average	104.4	102.2	83.7	98.0	108.4	100.6	107.5	108.4	104.4	105.3	106.4	86.2	73.0	

TABLE 15

INDEX OF PRIMARY DISTRIBUTION—UNITED STATES

Computed normal = 100%

Quarter	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
							Per Cent							
1	94.3	107.7	92.7	90.7	102.7	102.7	103.7	103.3	104.7	101.0	107.0	95.7	78.7	64.3
2	104.7	106.0	90.7	93.3	105.3	97.7	101.7	103.0	104.0	101.7	107.7	93.7	78.0	58.3
3	107.0	104.0	88.7	94.7	102.7	97.3	102.0	106.0	103.3	102.3	106.0	88.3	73.7	
4	106.3	98.0	87.3	101.7	101.7	103.0	105.3	107.0	99.7	105.0	99.7	83.3	68.3	
Total	412.3	415.7	359.4	380.4	412.4	400.7	412.7	419.3	411.7	410.0	420.4	361.0	298.7	
Average	103.1	103.9	89.8	95.1	103.1	100.2	103.2	104.8	102.9	102.5	105.1	90.2	74.7	

TABLE 16

INDEX OF DISTRIBUTION TO CONSUMER—UNITED STATES

Computed normal = 100%

Quarter	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
							Per Cent							
1	96.3	106.7	97.3	98.0	101.3	98.7	100.3	101.7	101.7	100.0	105.0	100.7	89.7	72.7
2	97.7	104.7	96.7	98.3	101.7	99.0	100.3	102.0	100.7	100.3	105.0	98.0	91.0	71.0
3	105.0	103.7	96.7	99.3	100.3	98.0	98.0	102.7	102.0	103.3	105.0	93.0	83.7	
4	104.7	98.7	97.7	100.3	99.0	99.7	104.7	101.7	99.7	104.0	102.3	88.0	78.0	
Total	403.7	413.8	388.4	395.9	402.3	395.4	403.3	408.1	404.1	407.6	417.3	379.7	342.4	
Average	100.9	103.4	97.1	99.0	100.6	98.8	100.8	102.0	101.0	101.9	104.3	94.9	85.6	

TABLE 17

COMPONENT PARTS OF VALUE OF MANUFACTURED PRODUCTS

(1) Year	(2) Wages (000,000 omitted)	(3) Cost of materials, supplies, fuel and power (000,000 omitted)	(4) Value of product (000,000 omitted)	(5) Value added by manufactures (000,000 omitted)	(6) Profits and overhead (5) - (2) (000,000 omitted)
			Dollars		
1899	2,008	6,576	11,407	4,831	2,823
1904	2,610	8,500	14,794	6,294	3,684
1909	3,427	12,143	20,672	8,529	5,102
1914	4,068	14,359	24,217	9,858	5,790
Total	12,113	41,578	71,090	29,512	17,399
Average	3,028	10,394	17,772	7,378	4,350
1914	4,067	14,267	23,975	9,708	5,641
1919	10,460	37,197	62,000	24,803	14,343
1921	8,200	25,292	43,619	18,327	10,127
1923	11,008	34,684	60,530	25,846	14,838
1925	10,727	35,897	62,668	26,771	16,044
1927	10,849	35,133	62,718	27,585	16,736
1929	11,271	37,358	68,453	31,096	19,825
Total	66,582	219,828	383,963	164,136	97,554
Average	9,512	31,404	54,852	23,448	13,936
			Per Cent		
1899	100.0	100.0	100.0	100.0	100.0
1904	130.0	129.3	129.7	130.3	130.5
1909	170.7	184.7	181.2	176.6	180.7
1914	202.6	218.4	212.3	204.1	205.1
Total	603.3	632.4	623.2	611.0	616.3
Average	150.8	158.1	155.8	152.8	154.1
1914	100.0	100.0	100.0	100.0	100.0
1919	257.2	260.7	258.6	255.5	254.3
1921	201.6	177.3	181.9	188.8	179.5
1923	270.7	243.1	252.5	266.2	263.0
1925	263.8	251.6	261.4	275.8	284.4
1927	266.8	246.3	261.6	284.1	296.7
1929	277.1	261.8	285.5	320.3	351.4
Total	1637.2	1540.8	1601.5	1690.7	1729.3
Average	233.9	220.1	228.8	241.5	247.0

obviously out of date, but it is the most comprehensive national index available, inadequate though it may be.

The indexes of real earnings per hour and real payrolls, shown in Chart III, were obtained by dividing the indexes of average hourly earnings, Table 6, and payrolls, Table 1, by the quarterly cost-of-living indexes in Table 7. These data are presented in Tables 8 and 9.

Physical Production and Real Payrolls

The index of physical production, shown on Chart IV, is compiled by the Federal Reserve Board, and is published in *Survey of Current Business.* It is compiled from fifty-nine series of data representing the production of about thirty-four industries, and is estimated to represent about 80 per cent of the total industrial production in the United States. The indexes of real payrolls presented in this chart are those presented in Table 9 shifted to a 1923 base. The indexes of both productive activity and real payrolls have been placed on a 1923 base, in order better to illustrate the widening discrepancy between them. The data for Chart IV are presented in Tables 10 and 11.

Dividend-Interest Payments and New Corporate Capital Issues

The data upon which the index of dividend and interest payments is based, shown on Chart V, are compiled by the *New York Journal of Commerce* and reported by Standard Statistics. The data on new corporate capital issues are compiled by the *Commerce and Financial Chronicle.* The data were combined into half-yearly periods, and put on an index basis, with 1926 as the base year. These indexes are presented in Tables 12 and 13.

Productive Activity, Primary Distribution and Distribution to Consumer.

The indexes of productive activity, primary distribution, and distribution to consumer, shown on Chart VI, are compiled by Carl Snyder of the New York Federal Reserve Bank. A description of these indexes can be found in the *Journal of the American Statistical Association,* December, 1931. These indexes are on the basis of a computed normal, and are presented on a quarterly basis in Tables 14-16.

Component Parts of the Value of Manufactured Products

The indexes shown on Charts VII and VIII were computed from data reported by the United States Census of Manufacturers. Table 17 presents the original data and the calculations performed to obtain the indexes. The use of two base years was necessitated by the fact that the classification was changed in 1914.

BUT POVERTY and insecurity in a world of abundant resources and of gigantic powers which have been effectively mastered and put in harness for human service is a monstrous stupidity. It is not a deprivation imposed upon us by any lack of natural opportunity, but a failure in human intelligence. Given the resources, their distribution is not a question of natural limits or inevitable laws from which we cannot escape, but of ordinary, sensible human arrangements. . . . It is the conduit, the system of distribution which is the thing alterable at human will. . . . It is our productive capacity alone which sets any limit of natural law to our possible standards of living. . . . It is the aqueduct which must be made capable of carrying the available supplies; and not the supplies which must be restricted to the carrying capacity of an insufficient aqueduct. . . .

ON THE one hand we have a new technique of production which gives us a vastly greater output of all the requirements of life with less and less need for human labour in proportion to its output; and on the other hand, an economy of ownership and distribution which cancels out the purpose of this release of human life from drudgery by making the consuming rights of the mass of mankind still dependent upon the continuous requirement for the exercise of their labour; shutting them out automatically from any claim to consuming rights at all if it does not need to hire and employ them; and, when it has to hire them, measuring their right of consumption by wage-payments related only to the cash-cost of living. Their only claim to consumption is this wage-claim for maintenance while the machine requires their attendance upon it. And in the working of the machine under our present economics of ownership and distribution, the incessant endeavour is to make their attendance required less and less in relation to output; to increase output while diminishing this labour charge upon it, and so to produce more and more cheaply. In a word, to bring each unit of product to completion with less and less labour claim to consumption distributed against it.

The advance of civilization in new knowledge and power applied to production stands essentially for service to and expansion of human life. But the handling and control of this new knowledge and power by our present economic system reverses all that. The human right to consumption, distributed as payment for hired labour, becomes a cost of production, and affects financial values detrimentally by increasing costs; and so the very thing which reason tells us is the central purpose of civilization—the endowment of human life with the widest possible satisfactions—becomes, as a cost of production, the thing which has to be cut down to the smallest possible margin of maintenance for the vast majority of mankind. (Fred Henderson, *The Economic Consequences of Power Production,* George Allen & Unwin, Ltd., London, 1931, pages 63, 64, 65, 115-116.)

Under-consumption[1]

As a Factor in the Economic Cycle

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That the inherent instability of the modern economic system is largely due to a persistent tendency for consumption to be too low relatively to saving is a theory frequently advanced in times of economic depression. Its practical importance—and its interest to students of industrial and social problems—lie in the conclusions to which, if generally accepted, it would give rise. Under-consumption—or excessive saving—is, it suggests, a consequence of great inequality in the distribution of income: too large a share of the total goes to the higher income groups, much of whose income is saved and invested, and too little to wage earners and others whose incomes are devoted mainly to consumption. It would follow, if this theory were correct, that one way to reduce the extent of booms and depressions would be to increase the share of the product of industry which goes to the lower income groups. The theory would also lend support to the view that in a time of depression government expenditure—for example, on such public works as those referred to in a recent Resolution of the International Labour Conference—if financed by loans, would help to redress the balance between saving and consumption, and would thus contribute to recovery. It is to an examination of this theory, with its various practical implications, that the following article is devoted.

THE THEORY of under-consumption is no new one, for it can be traced back to Sismondi. It was first propounded during a period of extreme depression, and it has found new and convinced adherents whenever a crisis has been followed by prolonged business stagnation. It is therefore not surprising that it should make its appearance again to-day.

Even if the theory seems to owe its vitality, or rather its resurrection, to recurrent anomalies, it must not be concluded that it is entirely lacking in foundation or that, being merely an echo of temporary suffering, it is undeserving of scientific consideration. But it requires very careful scrutiny to determine whether it agrees with the results of contemporary research into the business cycle. To formulate the question in this way means that we are leaving aside the older forms of the theory and comparing only its most recent versions with economic facts.[2]

The modern versions of the theory have, however, kept one fundamental characteristic of the original. The under-consumption proffered as an explanation of economic crises is still alleged to be due to the unequal distribution of the total income of capitalist society over the classes which compose that society. The great mass of the people, and more especially the manual workers, receive too small a share of that income and cannot adequately satisfy their essential needs. On the other hand, the rich—the favoured few—have a much larger share than is required for the satisfaction even of their luxury needs. They are therefore led to save and invest a large fraction of their share.[3] Capital investment means chiefly, if not exclusively, an increase in the means of production; this may be quantitative or qualitative, but in both cases it increases producing power. This increase is not accompanied by a parallel development in the consuming power of the masses, since their share of the general income is too small. Consequently this process inevitably leads to a crisis, market stagnation, unemployment, the ruin of numbers of undertakings, and general poverty. Every great depression shows this tragic economic contradiction of excessive production and unsatisfied needs. There is a plethora of clothing and food, and yet the people are starving and in tatters. In short, under-consumption is the fundamental disequilibrium between productive capacity and purchasing power that results from maldistribution of the income of any community. Excessive saving is none the less real for being purely relative: there is too much capital because there is too little consumption, and *vice versa.* This is the essential part of the theory, which has remained unchanged since it was first enunciated.

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[1] Reprinted by permission from *International Labour Review*, Vol. XXVI, No. 1, July, 1932, pp. 8-25.

[2] In particular, this involves rejecting the idea that under-consumption is due to the worker's inability to buy back the product of his labour with his earnings. That idea involves a confusion of thought, for it is impossible to define exactly the product of the labour of, say, a weaver or an office employee. The idea is also false, for the amount of available savings would decrease very considerably if no remuneration at all were being paid. And in any case a premium would have to be paid to the lender to cover his risk.

[3] It is obvious that any change in the use to which this total income is put has a dual effect. An increase in the fraction devoted to capital investment means a decrease in the fraction available for the consumption of finished products, and *vice versa.* In other words, the cause that makes for an increase in the supply of capital reduces the demand, thus increasing the effect of the change referred to. The intervention of credit may neutralise, or it may on the other hand accentuate, this dual effect. If credit is freely extended to producers at a time when saving predominates over spending, the impulse given to capital investment may easily be too great on a shrinking market. The extension of credit for purposes of consumption may, on the other hand, help to reduce this shrinkage. It should be added that the rate of interest cannot be considered as a satisfactory means of regulating saving, and consequently consumption, especially when incomes are very unequally distributed and in some cases very high.

It should be noted here that the theory of under-consumption is not the same as the theory of over-production, which at first sight might appear to be another aspect of the same thing. The latter is a complex conception differing from the former; over-production is taken to mean the inability of undertakings to sell their products at prices which will cover the cost of production. The theory under consideration in this article is both wider in its scope and less clearly defined in its outlines; it embraces the whole economic and social structure of society. It is true that it would be possible to find very limited cases of under-consumption. For instance, there is under-consumption when demand falls and supply remains constant, or at least when demand falls more than supply. There would be over-production in the strict sense of the term if supply increased and demand remained constant, or if the rise in supply were more rapid than the rise in demand. From this point of view cyclical depressions offer numerous examples of under-consumption of particular commodities, due to fluctuations in profits and wages which lead to a drop in the demand for certain products.

The general theory of under-consumption has been severely criticised. A frequent point of attack has been the disagreement between the theory and the facts of the economic cycle, at least during the periods of recovery and boom which make up the prosperity phase of the cycle. More than one economist holds that during these periods consumption outstrips and exceeds production, so that there would be not a constant deficiency of purchasing power as compared with productive capacity, but alternate deficiency and excess. This alternation could be explained by the very natural difficulty of establishing an exact and constant balance between supply and demand, in view of the roundabout nature of production under the capitalist system and the consequent importance of forecasting, which is always open to error. In that view there is really no social question involved. The inequality in incomes—corresponding to an inequality in services rendered—could not really be held responsible for the sufferings caused by the crisis and the depression, which should rather be considered as an inevitable consequence of the extreme complexity of modern economic life. This controversy cannot be settled without a consideration of the facts, or, to speak more precisely, without a study of the whole course of the economic cycle.

The cycle begins with an increase in business activity of varying magnitude, intensity, and duration. This movement is possible only when several conditions are simultaneously fulfilled. One of these is a certain abundance of available capital. This actually exists and is shown to exist by the low interest rates. The available capital is generally in the form of fiduciary currency: notes or sight deposits, both of which constitute credits payable on demand by the banks. The cover for this available capital must also be very considerable, so as to permit a possible simultaneous extension of bank credits.[4] It has been argued that at the beginning of the period of increasing activity there is no very large amount of savings available in liquid form. The fact, however, is certain. What happens is that notes are hoarded, and above all that relatively large sums are invested temporarily in the form of deposit accounts subject to cheque. The revival of trade gradually brings these sums into circulation. This does not mean that the deposits are withdrawn altogether from the banks, but that they will be used more and more rapidly for payments by way of transfers to other accounts. The hoarding of cash or of notes, and more especially deposit currency, are the two forms in which liquid capital is accumulated. The reasons that lead capitalists to keep these sums available until there is an increase in business activity will be discussed later.

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[4] With reference to money available on demand from the banks which might be termed deposit currency, the reader is referred to the present writer's *Traité d'économie politique*, 2nd edition (Paris, 1926), Vol. II, Ch. XVII, and his article on the accumulation and investment of savings during booms and depressions in the *Bulletin d'information et de documentation de la Banque Nationale de Belgique*, Sixth Year, Vol. I, No. 7, 10 April 1931.

As soon as trade begins to revive, inducements to invest multiply. The Far East is to be inundated with cotton goods; railways and ships are to be built; housing schemes are to be carried out in large towns; water-power is to be harnessed and electrical appliances manufactured; factories and plant are to be rationalised, that is, renewed and transformed.[5] Inaction gives place to business activity, hesitation to confidence. Rightly or wrongly, there is a flood of capital investment. The flood would soon run dry if it were not fed by new savings drawn from evergrowing profits. At the same time, even those savings are not enough. Bank credits, with their power of creating money, must come to the rescue. The rise in prices which has taken place is sustained by the extension of credit. In this manner funds are provided for the purposes of production, partly by restricting the purchasing power of fixed incomes and partly by preventing, at least theoretically, the scarcity of the means of payment which would otherwise follow from an increase in the volume of commodity transactions.

This brings us to the point which is of interest in the present connection. All this burst of construction activity is not necessarily due to any actual immediate increase in the demand from the consumer, but to an expectation of such an increase in the more or less immediate future. When, in the middle forties of last century, England began feverishly to build a network of railways no one could have demonstrated satisfactorily that these railways would pay; it would at least have been impossible to determine the date at which the consumption hoped for would become a commercial reality. Similarly, in recent years, when so many motor or artificial silk factories were being built or extended, and when the output of rubber, wheat, oil, and sugar was being steadily increased, there lay behind that movement merely calculations, or perhaps only a vague belief: it was thought that the volume of consumption would continue to increase at a more and more rapid rate. We know to-day what a huge margin of error there was in these estimates. In any case, under our present system of competition, the over-estimating of future market possibilities has become almost a chronic disease. As there is no general plan and no co-ordination, each undertaking expands the scale of its operations in isolation and ignores what is being done by its competitors. And it must be remembered that for purely technical reasons time is required for the construction of plant and equipment. As has been shown, during the whole of this period of increasing activity prices remain high, and provide a constant stimulus to further expansion.

The fact that a shortage of capital is found to exist towards the end of the period of increasing activity which culminates in a boom is no argument against the theory of under-consumption. This shortage is not relative to real needs; it is a shortage merely as compared with the megalomania of producers who over-estimate future demand. There is thus, first, a lack of sufficient capital to satisfy the desires of producers, and secondly, a volume of consumption inadequate to the actual volume of production, which, while it has been limited by the amounts of capital available, and also, be it said, by the supply of bank credit, is yet disproportionately great in comparison with the actual or prospective requirements of consumers. Thus the alternation of periods of prosperity and of depression is based entirely on the fluctuations from illusion to disillusion; it is not a swing of the pendulum from under-production to under-consumption and back again.[6]

This will be confirmed by a study of the distinctive features of the crisis which succeeds the boom and the depression which results from the crisis.

As a rule, the source of the crisis is the over-hasty investment of capital. Producing and financial undertakings have been reckoning on a very early expansion of consumption on a scale which will not be realised until considerably later, perhaps ten or twenty years hence. In order to adapt their productive capacity immediately to this future market, they have been compelled literally to over-work all the factors of production, to strain all the resources of credit, to exhaust the available savings, to force on unduly the mining of coal, iron, and copper and the manufacture of steel, to utilise all the available labour, even of poor quality, to lengthen, wherever possible, the working day and to work night shifts. All this results in an excessive rise in the prices of the means of production. In other words, there is obvious over-production, the marginal cost of which rises rapidly and carries selling prices to such a level that demand ultimately falls off. In addition to this, there is a tightening of credit and sometimes also a difficulty for individual firms to balance their accounts.

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[5] The case of the reconstruction of devastated areas is somewhat different. From the point of view of the present article, the devastation of certain areas means a loss of capital which may lead to a temporary change in the ratio of saving to consumption. The productive equipment which has been destroyed will have to be replaced by using the available liquid capital to finance purchases of materials and the employment of labour.

[6] It is well to remember that the first part of the increase in activity is generally on a sound basis, as, for example, when some technical innovation such as the construction of railways is first introduced. Conversely it should be noted that the last part of the depression is generally fundamentally unsound, as disillusionment degenerates into excessive pessimism and morbid lack of confidence.

The crisis is only the initial stage of the depression; or, in other words, the depression propagates the effects of the crisis, which are often cumulative, in successive waves. From the point of view of the present article, it should be remembered, as was pointed out already, that under-consumption does not become apparent until disillusion has set in. It becomes more marked when the work of installing plant and building and equipping factories and mines has been completed. At this point we must rebut the common sophism that it is the *shortage* of capital which leads to unemployment among the workers; it would be nearer to the truth to maintain that it was the *withholding* of capital that had that result. Even before the crisis comes, the more wary savers have ceased to make further investments because they have already realised the risks involved in new investments. This cessation of new investment becomes general after the crisis. Larger and larger sums are affected, for it would be wrong to imagine that there is no saving during a depression. There are, however, certain types of investments into which savings still find their way, at least when a period of relative calm follows the first convulsions: these are investments in State funds at home or abroad, or in gilt-edged securities. This point will be referred to again. The fact remains, nevertheless, that part of the savings accumulated during a depression is not invested,[7] and this for two reasons. In the first place, credit is refused to undertakings which have tied up too much capital in plant and unsaleable stocks and which are trying to reconstitute their exhausted working capital. The banks adopt the same prudent attitude towards very serious risks which are not counterbalanced by reasonable prospects of profit. In the second place, savings are not invested in new undertakings or in the extension of old ones, because all prospect of profit has vanished and the existing over-production and over-development of plant show that such investments would be a mere absurdity. Consequently the available capital, which is the normal counterpart of the available labour, is withheld. Moreover, manufacturers are at the same time restricting their operations and do not require either capital or labour.

In short, the characteristic of the depression is extensive unemployment of both capital and labour. But we must be clear that the reason why capital, whether tied up or liquid, is inactive is that the crisis has shown with brutal clearness that consumption is inadequate at a price level that will cover the cost of production.[8] The prospects of profit are thereby still further reduced, and production must be restricted instead of extended. There is no longer any idea of putting in new capital equipment. All that will be done is to carry out work that is already in progress.

At this point it will be well to compare periods of rising and of falling markets. While the distinctive feature of the period of expanding activity is an excessive immobilisation of capital due to the unequal rates of growth of savings and of consumption, that of the depression is an immense surplus of liquid capital, which must be ascribed to the same cause. But while during the period of expansion the expectation of profit led capitalists to purchase capital equipment with their money savings, during the depression they are disillusioned and pessimistic and consequently keep their savings in immediately realisable forms, or else invest them at a fixed rate of interest in the safest possible directions. It is therefore obvious that while the maldistribution of the income of the community is the factor responsible in both phases of the cyclical movement, the manner in which its influence is exerted is determined in each case by the prevailing trend of business.

There is, however, a deeper difference between the two cases. During the depression, saving is less than during the period of expansion, not only absolutely, as a result of the fall in profits, in the rate of interest, and in total income, but also relatively to expenditure. It has even been found that the disequilibrium between the proportions of the total income assigned to these two purposes becomes less and less as the depression continues. Simultaneously bank credit becomes steadily easier—in itself evidence of the gradual falling off in the demand for the means of production.

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[7] A milder form of this fear of investment is to be seen in the holding of an excessively large proportion of short-term funds by investors who in normal times would place funds in long-term investments.

[8] This statement refers to prices under a competitive system. A syndicate of producers such as the Copper Exporters in the United States may accentuate the inadequacy of demand by keeping prices at too high a level. The result of this will be that the manufacturing industries will reduce their purchases of the raw material produced by that syndicate.

The fact that saving declines relatively to expenditure is very important. The reason is that the richer classes, who constitute the chief source of new capital, try, for reasons of comfort, luxury, and social prestige, to maintain their normal mode of life unchanged, or to return to it at the earliest opportunity after a temporary lapse from it. In their case expenditure is a more stable element than saving. This is merely one special application of the law that a reduction of income is followed by a more than proportional reduction in the satisfaction of the needs considered to be the less important. It is therefore by no means surprising that the richest class, for whom saving is merely a consequence of their excessive wealth and income, should make great reductions in that direction during a depression. In the same connection it may be noted that there is an almost complete cessation of the practice of large undertakings financing extensions of their operations out of their own resources, for such reserves as they have will hardly do more than cover their losses.

The foregoing remarks naturally raise the further question of how the depression comes to an end, and why.

The steady reduction of the disproportion between saving and consumption is a powerful instrument in re-establishing the lost equilibrium. This influence is particularly apparent if as a result of the pessimism inspired by the crisis there is an abnormal general decline in consumption. As soon as the panic dies down, there is a recovery and consumption begins to increase. If no complications arise, such as arose in September, 1930, and on several occasions in 1931 and 1932, this fact will do much to strengthen the weak market.

It should be noted, moreover, that the depression is not merely a phase in the development of the consequences of the crisis, but also a period of readjustment of the economic system which had been thrown out of gear by the exaggerated optimism of the boom period. One fact which is especially noteworthy is the fall in prices that follows a general effort to reduce production costs. This increases the purchasing power of fixed or non-capitalist incomes which are devoted to spending rather than saving. The fact already referred to that credit is easy contributes to the fall in prices to the extent that producers benefit from the reduction in interest rates. It also helps because it is accompanied by a contraction in the fiduciary circulation (paper money and deposit currency). It is no doubt true that there is less money because there is less economic activity; prices are lower because demand is less intense at every stage of production; but up to a certain point this is also due to the fact that fiduciary currency is less abundant. Action and reaction are so intertwined that it is easy to mistake cause and effect; in reality the effects—in this case the contraction of the currency—often become derivative causes or factors which cumulatively aggravate the initial causes. However that may be, the revival of demand leads to renewed productive activity sufficient to cover the cost of production in spite of the low prices. When this revival occurs, the depression comes to an end. Whether this means that under-consumption has completely disappeared depends on whether the capital which was being withheld from investment will be released and whether consequently most of the workers who had been thrown out of work will be able to find employment.

Even supposing that this happens, there is no certainty that this return to normal conditions will last. It is true that the capitalists will know from experience that the re-establishment of economic equilibrium has been obtained only at the cost of heavy sacrifices, often with a loss of large amounts of capital. But they will quickly forget this hard lesson. The sins of the system have to be expiated, but nothing is done to amend it.

It may be appropriate at this point to add a few remarks on the part played by public credit. Public credit, which has greatly expanded in recent times, constitutes an outlet for a large fraction of the savings accumulated during a depression. Public credit makes itself directly and quite quickly felt in a demand for products of various kinds, such as the construction of roads or school buildings. If State loans are used to meet the deficit in the budget, they naturally do not create any fresh demand, but they tend to prevent any shrinkage in the existing demand such as would occur if, for instance, the salaries of public officials were cut down or if work already in hand were suspended. An increase in taxation, from the point of view at present under consideration, is less favourable than a loan for restoring a normal economic situation. Taxation may in fact directly or indirectly reduce the purchasing power of the taxpayer, while it is, on the contrary, decidedly uncommon for anyone to reduce his expenditure for the purpose of subscribing to a Government loan.

The State issuing the loan may be a foreign country. In that case it is clear that the operation will not relieve the economic system of the lending country unless it leads to orders for the industries of that country.

While it is true that public loans may mitigate the extent of under-consumption during a depression, it must not be forgotten that the issue of the bonds for these loans provides large financial profits which will certainly not be used to stimulate demand.

The above survey, of necessity extremely brief, will certainly give rise to certain objections, the importance of which the writer fully recognises. As they are naturally linked up with current thought, they can be readily anticipated and replied to at once.

Against the theory of the relative excess of saving the very plausible argument will be brought forward that capital which brings in interest, however small, is not and cannot be surplus capital, since it finds remunerative employment. In the first place, this argument loses its value in the case of capital which is not employed or which, as in the case of sight deposits in the bank, receives interest far below the current rate because it is available on demand. This is true *a fortiori* in the case of notes which are hoarded or sight deposits without interest held by banks of issue. Moreover it must not be forgotten that the gross rate of interest includes a risk premium. Towards the end of the depression, when the incomes of capitalists have fallen to a very low level, the risk premium also begins to fluctuate. In other words, capitalists begin to be more anxious about the dwindling of their incomes than about the hazards of investment. They begin to take risks.[9] Examples of this can easily be found. After the great depression of the eighties of last century English investors were easily persuaded to make enormous loans to Argentina; this somewhat artificial and very brief boom ended in the crash of 1890. The same reason explains the investment of Belgian capital in Russia before the crisis of 1900. A further point which must be kept in mind is that savings are not always accumulated with a view to being invested for interest, but sometimes merely as a reserve for future needs; this explains why disproportion between the accumulation of capital and the demand for capital is always possible. /

Another objection which will be made to this theory is the classic one depending on Jean-Baptiste Say's law of markets that commodities are exchanged for commodities. This celebrated formula contains only a very limited amount of truth. If we imagine exchanges as being carried out without money we are merely falsifying the real state of affairs, not simplifying it. Barter, which is so dear to the theorists, involves simultaneous purchase by the two persons concerned. The use of money, on the other hand, breaks up the exchange into successive operations. It is quite conceivable that a worker who has sold his services may be unable to find bread on the market. A manufacturer who buys raw materials always runs the risk of not being able to sell the finished products and, more especially, of not being able to sell them at a price which will cover his cost of production.

To identify total demand with total income is, moreover, an error very similar to the first one. The total demand may include not only the total income of the community but also newly-created credit, representing a net increase over what formerly existed. A growing volume of credit accentuates still more the exaggerated demand for producers' goods resulting during the boom from the relative excess of saving. During the depression, on the contrary, the total demand falls below the total income, a fraction of which is hoarded or used to repay advances from the bank which have not been replaced by other equivalents.

It is also argued that saving is a form of demand just as spending is—that saving means delegating one's consuming power to someone else. But this demand becomes effective only on one condition, which is that some other demand for finished products comes from actual consumers and justifies an increase in the producer's plant or equipment. Now, the delegation of consuming power just referred to is always incomplete and there is more or less delay before it takes effect. For instance, the purchaser of machinery transfers purchasing power to a manufacturer, who in turn passes it on to a metal works. A whole series of transfers of this kind may take place between different producers without the market for finished products having more than a very slight share in the benefit. This is exactly the converse of the classic argument based on the assumption of barter, as a simple example will suffice to show. If each successive producer saves his profits, the sum saved will not leave the "capitalist" circle to increase the demand for consumers' goods. In reality, a fraction of the profits and the larger amount distributed in the form of wages will undoubtedly help to increase consumption; but that clearly does not prevent the creation of plant and equipment from outstripping the demand for finished products. During the whole period required for the construction of the new equipment the producer may be lulled into a false sense of security; but as one new factory after another comes into operation the real situation is finally revealed. In brief, the assertion that the remedy for the crisis is to be found in the investment of savings is incomplete without a mention of the essential condition for such investment, namely, an expansion of the market for finished products, or at least the confident expectation of such expansion. There must, therefore, be some indications of trade revival.

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[9] It must not be forgotten that the risk is subjective, which means that it is often exaggerated or, on the contrary, underestimated. The reference in the text is to under-estimation of the real danger.

One other point must be stressed. Wages rise during the boom, and therefore under-consumption should cease. In point of fact, as was shown long ago by Rodbertus,[10] the disproportion between the incomes of capital and of labour is even more marked during the boom than during the depression. In periods of prosperity profits rise much more than wages, and it is chiefly out of profits that savings are accumulated. Moreover, the rise in wages during periods of prosperity is merely a passing effect of the process of over-investment; it does not in any way mean that the workers will continue permanently to receive a larger share in the total product of industry.[11]

The opponents of the theory of under-consumption may also advance the argument of the boom itself or of its cyclical recurrence. The writer has explained elsewhere that the existence of the business cycle is far from being as certain and as clearly demonstrated as many economists seem to suggest. What may be accepted by everyone, since it is self-evident, is the frequent occurrence of general or partial booms. These are inherent in the nature of a capitalist and competitive economic system. Hence the question—or if preferred the objection—takes a more definite form: can the existence of frequent booms, whether periodic or otherwise, be reconciled with the idea that capital investment is generally in excess of the needs of consumption, even when the latter is expanding? In other words, is there a fundamental lack of balance between producing power and purchasing power?

It is quite certain that if this conception is interpreted too literally and too absolutely it will not be found to agree with all the observed facts. We may go further and admit without hesitation that there has been very great economic expansion during the era of capitalism and no irreparable decadence, at least up to the present, in countries which are under that system. Even the most violent economic disturbances have always proved purely temporary. And it must be recognised that the gravity of the present situation is not due solely to economic causes.

At the same time it is equally true that the tendency to maladjustment between producing power and purchasing power remains constant. But it is neutralised and obscured whenever trade revives by the intervention of a factor peculiar to the present epoch, namely, technical progress. This factor has a dual influence. In the first place, it directly affects production from within by introducing new processes. It then acts indirectly from without by bringing about an extension and fusion of markets as a result of the lowering of transport costs. In the latter direction it may be expected that the effects of technical progress will sooner or later reach a limit. The world is gradually becoming unified; this process may no doubt be hastened on by the development of air transport or by other improvements that are still unthought-of, though it is obvious that it is seriously hindered by economic nationalism. The direct effects of technical progress on industry and agriculture, however, seem at present to have no visible limits, and in this direction capitalism still has vast possibilities open to it. And the relative excess of saving, with the pressure it exerts on the leaders of finance and industry during, and especially towards the end of, the depression, may possibly hasten on the application of inventions. Competition is another factor which certainly has the same effect. The capitalist system may therefore point, in justification for its existence, to the fact that it has stimulated economic progress.

Yet it remains defenceless against the exaggerated optimism which leads to catastrophe. For this reason the problem of economic planning which is at present occupying the attention of the world can be summed up in a few words: how is it possible to moderate the violence of these fluctuations and to distinguish in practice between progress and illusion? The solution of this problem is already taking shape on the political horizon: it lies in the control of banks, holding companies, and other financial bodies, including in the latter term investment trusts in general. The point cannot be more than mentioned here, because in this study of the theory of under-consumption it must be recognised that the control in question, even if it were completely effective, would not, or would only indirectly, lead to an exact and lasting balance between producing power and purchasing power for finished products. The proportion of the total income devoted to investment would probably remain too high.

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[10] Rodbertus: *Soziale Briefe an v. Kirchmann* (1850). Cf. also Lescure: *Des crises générales et périodiques de surproduction,* 4th edition, Vol. II, 1932, pp. 416-417. On the harmful influence of rationalisation, cf. Hobson: *Rationalisation and Unemployment* (London, 1930), note on p. 90.

[11] As an offset to this, it is of course true that the fall in prices resulting from technical progress does lead to a lasting improvement in the purchasing power of the wage earners and tends to reduce under-consumption; so also does the rise in the general level of money wages over a long period.

Another plan which is much in the foreground at present, at least with many British and American economists, is the inflation of the fiduciary currency. This inflation would be controlled and kept within limits, without the usual suddenness or the ordinary train of tragic and sensational consequences. Even its name would be changed so as to make it less impressive. It would be called, not altogether inaptly, reflation. By this means prices would rise slowly and not unduly, and would finally be stabilised at a reasonable level. That at least is the hopeful conviction of the advocates of the process. In this way the spirit of enterprise would revive, as production costs should rise neither so fast nor so far as selling prices.

Unfortunately it is doubtful whether the plan is workable. The experiments at present being made in the United States have so far proved fruitless (4 June 1932). It is only natural that the American Congress should think of intensifying the plan, but surely there is a risk that in their impatience and anxiety they may give too great an impetus to the movement. That is the real danger—that inevitably the scheme will be carried to excess. If that happens, we may fear the worst, including inconvertible notes, the collapse of exchanges, the flight of capital, and ultimately the paralysis of credit, depreciation of working capital, and the reign of speculation in its least desirable forms. We are still too close to the collapse of various currencies after the war not to realize the dangers of an inflationist policy, even when controlled. Perhaps it might be less dangerous if it were international, but in that case how would it be controlled?

From the point of view of the balance between producing power and purchasing power, inflation would have the advantage of destroying surplus capital. But it might destroy too much and create a fresh disproportion, that between fixed capital and circulating capital, which is itself a dangerous stimulant of crises.[13] Such a destruction of capital would not be anything really abnormal. The whole development of the capitalist system is a history of the destruction of capital. Competition eliminates large sums. Undertakings whose plant is not absolutely up to date, as, for example, in new countries flooded with European or American goods, have to disappear or be transformed. If they are to continue in existence without a forced change of ownership, they must hurriedly and prematurely write off large sums for depreciation; they must scrap equipment which is still fit for the purposes of production, however heavy the sacrifice. And their accounts will show this loss of fixed capital in the form of very heavy deductions from gross profits. During a boom it is loan capital which depreciates without appearing to do so, because the rise in prices reduces the purchasing power of the annual interest on it and of any repayments. It is true that this depreciation is temporary, but it is none the less appreciable and it is due to the rash optimism of business men, sustained by the inflation of credit. There is no need to remind the reader that a crisis leads to one failure after another. These catastrophic failures are not always due to any real lack of ability among the heads of businesses, but sometimes merely to imprudence. The reconstruction of shaky businesses also involves irreparable loss of capital. The depression continues the destructive work of the crisis, and it is further accompanied by a deflation of credit, which results in a fall in the market value of securities with variable interest.

The inflation and deflation of currency, in the proper sense, lead on a larger scale to effects similar to those resulting from tight or easy credit. There is however this difference, that capital which is affected by these diseases does not as a general rule recover. It should be added that over-saving, especially during the period of business stagnation and lack of confidence, renders a certain amount of capital temporarily unproductive, because liquid capital is being hoarded and production is restricted, so that a considerable amount of plant and equipment may be lying idle. This list of the ways in which surplus capital is destroyed or left in enforced idleness may be completed by reference to the losses incurred through capital being recklessly invested in unsound undertakings or lent to unreliable foreign borrowers, more especially in the case of public credit. The crisis of 1825, the Russian "affairs" at the turn of the century, and many affairs in the Far East provide notorious examples of this kind.

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[13] In reality the conflict between inflationists and deflationists is one of interests. It is merely a question of who is to be sacrificed, the shareholder or the lender, the invested capital or credit. Neither of the parties concerned pays any attention to the possibly disastrous effects of its victory on the non-capitalist classes, especially in the direction of unemployment or a fall in real wages.

The history of capital losses makes sad reading. Even admitting frankly that mistakes were made by those who owned or administered capital—mistakes which were not due to the system—we cannot get away from the fact that the principal cause of these losses is the excess of saving in proportion to consumption. If the vessel is too full, some of its contents must overflow and be lost, or at least remain unused for a time. It is no doubt true that capital consists merely of things and that it is infinitely more serious and more deplorable to see wage earners, who are human beings, assailed by unemployment, poverty, sickness, and death. But the ills to which capital is heir inevitably react on the men who use it. What we are studying is therefore a social question and one of extreme importance at the present time.

Theoretically, the end to be achieved is clear and has already been suggested. We must find the best possible ratio for the allocation of the total income of the community to the creation of fresh plant and equipment and the consumption of finished products. But we have also seen that the rate of interest and fluctuations in profits do not constitute an adequate means of regulating this ratio. They often reflect the influence of collective errors in forecasting the future, and the volume of saving does not by any means follow closely the variations in the rate of interest on investments.

The practical difficulties are increased by the fact that the probable increase in consumption in the near future is very hard to estimate, and a considerable margin must always be left for unforeseen possibilities. Allowance must also be made for technical innovations which will require fresh capital and for the financing of countries which are not yet, or have only recently come to be, on a capitalist basis, and for which judicious assistance given in moderation will always be necessary and of inestimable value.

While admitting these difficulties, we must not exaggerate the height of the obstacles. It must be realised that a very great step forward can be made by increasing considerably the share of the working masses in the distribution of the total product of economic activity. This is the most reliable means of ensuring greater stability in the economic system, reducing the intensity of crises, and cutting short depressions.

The Depression and the Way Out

A Review of Three Important Books[1]

By N. I. STONE
Consulting Economist, New York

THE DEPRESSION continues to be the dominant topic of current economic literature. The numerous contributions offered in magazines and books to the solution of the problem may be divided into two broad groups: (1) those based on the belief that the recurrent booms and depressions can be overcome by a system of nationally planned economy; and (2) those which are not. With some qualifications, Mr. James may be said to belong to the first group; Mr. Keynes and Mr. Crowther with most of his collaborators belong to the second.

Keynes' "Essays in Persuasion"

John Maynard Keynes, the celebrated English economist, hardly needs an introduction to an American audience. The products of his trenchant pen are widely read not only by American economists, but by a much wider circle of intelligent readers who aim to keep abreast of world events. Mr. Keynes, who participated in the Versailles negotiations as the economic expert on the British Delegation and resigned from it when he felt that the Allies were imposing upon their vanquished foes terms impossible of fulfilment, has had the satisfaction of being able to say "I told you so" a dozen years after the publication of his "Economic Consequences of the Peace."

If ability to forecast coming events may be regarded as a fair test of the soundness of the view of a writer on politico-economic subjects, then Mr. Keynes' mastery of economics is established beyond a doubt by his "Essays in Persuasion." The Essays are a collection of magazine articles and lectures delivered over a period of more than a dozen years following the War and now published in book form. Written on the most debatable questions of the day in the heat of political controversy, the Essays stand unique in economic literature as an almost unbroken series of prophecies come true.

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[1] *Essays in Persuasion.* By John Maynard Keynes, Harcourt, Brace and Company, New York, 1932, pages xiii, 376.

A Basis for Stability. By Samuel Crowther in collaboration with 21 leaders of American industry, Little, Brown and Company, Boston, 1932, pages ix, 360.

The Road to Revival. By F. Cyril James, Harper & Brothers, New York, 1932, pages xv, 235.

It so happens that the issues which evoked these prophecies had most to do with causing and aggravating the industrial depression from which the world is now suffering. This started in England while we were still riding the waves of prosperity. Because of the light they throw on the origin of our own depression and the part played by reparations, war-debts, tariffs, inflation and deflation, the book calls for more than passing notice.

Writing in 1919 and urging the cancellation of reparation claims and inter-governmental debts, Mr. Keynes dryly remarks that "France would be a loser on paper only, for she will never secure the actual fulfilment of her present claims" (p. 29), a "reckless" assertion in 1919 of a positive fact in 1932. No less prophetic, as our hindsight now tells us, was the statement made at the same time that "the existence of the great war debts is a menace to financial stability everywhere. There is no European country in which repudiation may not soon become an important political issue" (p. 36). Developing the same thought, he concluded: "There may, therefore, be ahead of us a long, silent process of semi-starvation, and of a gradual, steady lowering of the standards of life and comfort" (p. 45).

Writing in 1921 on "War Debts and the United States," and pointing out that the huge excess of exports from the United States over imports was only made possible by the huge loans made by us to Europe, he says: "For a time the policy of loans can meet the situation; but, as the interest on past loans mounts up, it must in the long run aggravate it" (p. 54); "a continuance of them cannot provide a solution for the existing disequilibrium in the balance of indebtedness. . . . Ultimately, and probably soon, there must be a readjustment of the balance of exports and imports. America must buy more and sell less. This is the only alternative to her making to Europe an annual present" (p. 56).

How true and prophetic the last remark proved!

To those who are fond of wandering in the mazes of the theories of overproduction and under-consumption and lack of planning-a-la-Soviet as the cause of our present depression, the following forecast of our present trouble, refreshingly plain in the simplicity of its outline and striking because of the prophetic nature of its utterance, is commended:

> It is useless for the United States to suppose that an equilibrium position can be reached on the basis of her exporting at least as much as at present, and at the same time restricting her imports by a tariff. Just as the Allies demand vast payments from Germany, and then exercise their ingenuity to prevent her paying them, so the American Administration devises, with one hand, schemes for financing exports, and with the other, tariffs which will make it as difficult as possible for such credits to be repaid. . . . By the shipment to the United States of all the bullion in the world and the erection there of a sky-scraping golden calf, a short postponement may be gained (p. 57).

(What a clear forecast, in 1921, of the ephemeral nature of the "New Era" which so many of our financiers and, alas, even economists as late as 1928 and 1929 thought we had achieved!) He continues:

> In any case, the readjustment will be severe, and injurious to important interests. If, in addition, the United States exacts payment of the Allied debts, the position will be intolerable (p. 57).

(What a prophecy of the inevitable collapse into which we are being rushed headlong by our blind political leaders!)

Having thus forecast nearly a decade in advance the coming effects of our tariff and war-debt policies, and having during the ensuing years devoted himself to the criticism of the deflation policy followed by the British Government, he was able to register the following triumphant note ten years later upon the collapse of the gold standard in Great Britain:

> Now . . . we and all the countries following our example will gain the benefits of higher prices. But none of us will secure a competitive advantage at the expense of the others. Thus the competitive disadvantage will be concentrated on those few countries which remain on the gold standard. On these will fall the curse of Midas. As a result of their unwillingness to exchange their exports except for gold their export trade will dry up and disappear until they no longer have either a favorable trade balance or foreign deposits to repatriate. This means in the main France and the United States. Their loss of export trade will be an inevitable, a predictable, outcome of their own action. These countries, largely for reasons resulting from the war and the war settlements, are owed much money by the rest of the world. They erect tariff barriers which prevent the payment of these sums in goods. They are unwilling to lend it. They have already taken nearly all the available surplus gold in the whole world. There remained, in logic, only one way by which the rest of the world could maintain its solvency and self-respect; namely, to cease purchasing these countries' exports. So long as the gold standard is preserved—which means that the prices of international commodities must be much the same everywhere—this involved a competitive campaign of deflation, each of us trying to get our prices down faster than the others, a campaign which had intensified unemployment and business losses to an unendurable pitch.

> But as soon as the gold exchange is ruptured the problem is solved. For the appreciation of French and American money in terms of the money of other countries makes it impossible for French and American exporters to sell their goods. The recent policy of these countries could not, if it was persistently pursued, end in any other way. They have willed the destruction of their own export industries, and only they can take the steps necessary to restore them. The appreciation of their currencies must also embarrass gravely their banking systems. The United States, had, in effect, set the rest of us the problem of finding some way to do without her wheat, her copper, her cotton, and her motor-cars. She set the problem, and, as it has only one solution, that solution we have been compelled to find (pp. 292-293).

History having thus vindicated Keynes' brilliant analysis and forecasts of a decade, he was far from happy at the results, which no one was more anxious to avert. Indeed his premonitory utterances were devoted to their prevention. He, therefore, winds up his discussion of the situation with the following admonition:

> Yet this is quite the opposite of the note on which I wish to end. The solution to which we have been driven, though it gives immediate relief to us and transfers the strain to others, is in truth a solution unsatisfactory for every one. The world will never be prosperous without a trade recovery in the United States. Peace and confidence and a harmonious economic equilibrium for all the closely inter-related countries of the globe is the only goal worth aiming at (pp. 293-294).

From these extracts, the reader will see that Keynes' mind deals with world-wide movements and the economic forces which tend to maintain world economic activities on an even keel. The balance wheel of these activities is the price equilibrium which governs the economic relations between different countries as well as between different groups in each country. Anything that disturbs this price equilibrium upsets in turn the smooth working of the economic machine and brings about disturbances which may range from a temporary interruption to a major depression.

Writing in 1927 he says: "Unemployment and trade depression in Great Britain have been due to a rupture of the previous equilibrium between the sterling price level of articles of international commerce and the internal value of sterling for the purposes on which the average Englishman spends his money-income." And that this is true not only of Great Britain is expressed in his "belief that fluctuations of trade and employment are at the same time the greatest and the most remediable of the economic diseases of modern society, that they are mainly diseases of our credit and banking system" (pp. 232-233).

This is brought about by the workings of our unstable standard of value, gold. Since the value of an ounce of gold varies just as that of any other commodity, and the value of every possession and every service is expressed in that unstable medium, it follows that all business activities are influenced not only by every change, but by any *expected* change in the price level.

> If, for any reason right or wrong, the business world *expects* that prices will fall, the processes of production tend to be inhibited; and if it expects that prices will rise, they tend to be over-stimulated. A fluctuation in the measuring-rod of value does not alter in the least the wealth of the world, the needs of the world, or the productive capacity of the world. It ought not, therefore, to affect the character or the volume of what is produced (p. 98).
>
> The fact that the expectation of changes in the *general* price level affects the processes of production, is deeply rooted in the peculiarities of the existing economic organisation of society (p. 99).
>
> There is also a considerable risk directly arising out of instability in the value of money. During the lengthy process of production the business world is incurring outgoings in terms of *money*—paying out in money for wages and other expenses of production—in the expectation of recouping this outlay by disposing of the product for *money* at a later date. That is to say, the business world as a whole must always be in a position where it stands to gain by a rise of price and to lose by a fall of price. Whether it likes it or not, the technique of production under a regime of money-contract forces the business world always to carry a big speculative position; and if it is reluctant to carry this position, the productive process must be slackened (p. 100).
>
> Now it follows from this, not merely that the *actual occurrence* of price changes profits some classes and injures others . . . but that a *general fear* of falling prices may inhibit the productive process altogether. For if prices are expected to fall, not enough risk-takers can be found who are willing to carry a speculative "bull" position, and this means that entrepreneurs will be reluctant to embark on lengthy productive processes involving a money outlay long in advance of money recoupment—whence unemployment. The *fact* of falling prices injures entrepreneurs; consequently the *fear* of falling prices causes them to protect themselves by curtailing their operations; yet it is upon the aggregate of their individual estimations of the risk, and their willingness to run the risk, that the activity of production and of employment mainly depends (p. 101).

Such being the cause of the ups and downs of business,

> The remedy would lie . . . in so controlling the standard of value that whenever something occurred which, left to itself, would create an expectation of a change in the general level of prices, the controlling authority should take steps to counteract this expectation by setting in motion some factor of a contrary tendency. Even if such a policy were not wholly successful, either in counteracting expectations or in avoiding actual movements, it would be an improvement on the policy of sitting quietly by whilst a standard of value, gov-

> erned by chance causes and deliberately removed from central control, produces expectations which paralyse or intoxicate the government of production (p. 102).

Crowther's "A Basis for Stability"

Quite different from the Englishman's book we have just reviewed is the American symposium conceived by the well-known journalist, Samuel Crowther.

"A Basis for Stability" is a symposium consisting of interviews with twenty-one leaders of American industry, finance and commerce, including men like Henry Ford; Myron C. Taylor, Chairman of the Finance Committee of the United States Steel Corporation; Alfred P. Sloan, Jr., President of the General Motors Corporation; John Hays Hammond; Walter C. Teagle, President of the Standard Oil Company of New Jersey; General W. W. Atterbury, President of the Pennsylvania Railroad; Richard F. Whitney, President of the New York Stock Exchange; G. F. Swift, President of Swift & Company; Howard Heinz, President of H. J. Heinz Company of 57 varieties fame; Horace Bowker, President of the American Agricultural Chemical Company; Clarence M. Woolley, Chairman of the American Radiator Company; A. W. Robertson, Chairman, Westinghouse Electric and Manufacturing Company; George A. Sloan, President of The Cotton-Textile Institute; Martin J. Insull, President, at the time of writing, of Middle West Utilities Company.

Each of these men speaks of his own industry of which he is a recognized leader. Mr. Samuel W. Reyburn, President of the Associated Dry Goods Corporation of New York, tells us "Why Have Department Stores?" and J. C. Penney, Chairman of the famous chain-store corporation bearing his name, answers the question, "Is the Chain Store a Menace?" while William R. Basset, of the well-known investment-banking house of Spencer Trask & Company, tries to forecast "Where Industry is Heading."

All of these articles or interviews are very interesting in themselves in so far as they give an intimate view of the situation in each industry by its own outstanding leader, but very few have a direct bearing on the question of how to stabilize their respective industries and still less attempt to tackle the problem of stabilization of business as a whole. The outstanding exception among these is Mr. Clarence Woolley's discussion, which I shall discuss later, of the building industry as a stabilizing factor in the business cycle.

Standing apart from all of these is the chapter by Carl Snyder, Statistician of the Federal Reserve Bank of New York, which, under the modest title of "A Measure for Business," gives the gist of his scholarly study of the course of business over a period of more than half a century from 1875 to the present. This elaborate study boiled down to its final terms resulted in the interesting discovery that by and large there is a definite relation between the volume of bank credits and the total volume of business (as measured by the production and exchange of goods and services). Mr. Snyder's studies show "that over the last half century the long-term rate of growth of industrial production and trade has remained substantially unchanged. This he explains by the fact that

> This rate of industrial expansion is a function, first of all, of the increase of population and, secondly, of the steady advance of technology, discovery, invention, and improvement alike in machinery and management. This latter shows a rising value and expands steadily as the rate of growth of the population falls. . . .
>
> This average rate of expansion appears to be, for the present century and perhaps longer, close to four per cent per annum. It is a little higher in the periods we think of as prosperity, a little lower in the periods of depression. In reality, not a great deal of difference (pp. 316-317).

This rate of growth of industry, trade and services finds its counterpart in the rate of growth of bank credits. So long as the two go together, business is what we call normal. As soon, however, as a deviation in the respective rates of growth of these two factors occurs, there is a disturbance in the normal functioning of the body economic. To quote Snyder again:

> Whenever the increase in credit exceeds the measured increase in trade, this fact is registered in a rise in the general price level; and vice versa, a deficit of credit as compared with the growth of trade means a fall in prices (p. 316).

We already know that rising prices stimulate business and bring about prosperity, while falling prices have the opposite effect. Thus by totally different routes of study and reasoning the famous English economist and one of the leading American statisticians arrive at the same conclusion as to the cause of the cycles of prosperity and depression.

We know the remedy proposed by Keynes. What is Snyder's remedy?

> If the highest national good is subserved by maintaining the practical working maximum of production, employment, and prosperity, then does it not seem that, in the light of these new measures, this would be best subserved in this country by an increase of bank credit close to the working maximum increase of trade that can be maintained year after year, that is, apparently, under existing conditions, at something like four per cent per annum? And we should as carefully guard against a credit expansion materially exceeding this rate as we should jealously maintain this rate (p. 318).

Having thus prescribed the remedy for our recurring troubles, Mr. Snyder concludes with this thought:

> It seems to me that this new knowledge derived from the measurements I have described does indicate that we might perhaps, without great difficulty, maintain a high degree of business stability, taking business as a whole, and therefore of employment and of social welfare. If these measures are correct, this would in turn carry with it increasing stability of the general level of prices, or average purchasing power of money. And all this would inevitably relieve business and industry from its old-time and still existent dread and fear of financial and monetary concussions; and thus give the freest rein to the advance of technology, discovery, and improvement in management (p. 319).

Not a word about social planning! No planning to avoid overproduction by keeping production down to consumption! No drawing for inspiration upon the Five-Year Plan of Soviet Russia! Just a confident reliance upon the workings of economic laws, or rather a specific law of the effect of credit on business activity.

Without questioning the conclusions of Keynes and Snyder as to the effect of credit on the general price level and through that on the ups and downs of the business cycle, there is room for doubt as to the efficacy of a mere increase of available credit as a means of helping the industrial engine to overcome its dead point at a time like the present.

In 1931 the Federal Reserve System spent about three-quarters of a billion dollars in the purchase of government securities in an effort to pump money into the banks in order to enable them to extend credit to business, but business went from bad to worse. In the first half of 1932 the Federal Reserve System again sought to stimulate credit by an aggressive campaign of purchase of government securities, which this time exceeded one billion dollars. And once more the money failed to move into the channels of active business. Does this imply that the credit theory is all wrong?

In the humble opinion of the writer the trouble is not with the theory, but with the mechanical conception of the theory on the part of those who expect credit to work automatically. Those who do so fail to draw the line between natural laws and economic laws. Natural laws, such as the law of gravitation, for example, manifest themselves through the play of natural forces in which man need not play any part other than that of observer. Economic laws, on the other hand, manifest themselves only through the activities of human beings; they are, in effect, laws of human behavior in the economic field, that is, the formulation of a so-called economic law is an attempt to forecast how human beings will act under a given set of circumstances. Take the present case of depression:

The credit theory postulates that as soon as credit is being freely extended, business will be stimulated and the people will prosper. Conversely, the withdrawal of credit will act as a brake upon business; the more it is withdrawn, the more business will be ebbing away. The shutting down of each individual plant results in the unemployment of additional numbers of people, who, forced to curtail their expenditures, automatically cause the shutting down of more plants, and thus start the downward spiral with the operation of which we have all become only too familiar in the last two years. Now while it is true that the revival of business activity cannot take place without bank credits (except in the case of a few of the larger companies which, in spite of hard times, have still sufficiently strong cash positions to be able to operate without bank credits), it does not follow that the mere availability of credit will cause a manufacturer to reopen his plant, unless he has orders to fill, or knows where he can dispose of his products if he should have the courage to turn them out without orders. With millions of workers unemployed and more millions with greatly curtailed incomes we are in a vicious circle which must be broken at some point before the *availability of credit* can be translated into *credit at work*. With private initiative paralyzed and business and economic thought in accord that the government, as the executive organ of the nation, should take the initiative, the form the initiative should take is the only question. If the financial operations of the government through the Federal Reserve System in the purchase of government securities had succeeded in bringing about a revival of business, there would be no room for further argument. But as they failed to bring about the desired result in 1931 and the first half of 1932, should not the effort be directed toward the point at which the vicious circle can be broken? That point is the revival of demand, which the unemployed masses and the impoverished farmer and middle class cannot bring about by themselves. On the other hand, that same government credit applied to public works including roads, buildings, harbor works, etc., would set thousands of people to work and thereby revive demand not only for building materials and machinery but for all kinds of consumers' goods as well. The extension of government credit for clearing the slums in the cities which, like New York, are prepared to proceed with the erection of model houses to be let at moderate rentals, and which will automatically amortize the government advances, is the kind of a credit expansion that will work. It will start the wheels of industry turning and revive demand for every kind of commodity and service.

With activities thus started, manufacturers, for whose products there will now be a renewed demand, will gladly avail themselves of the credit which the banks will be ready to extend to them—and thus will the credit theory be vindicated.

In the light of these conclusions it may be confidently asserted that had the Reconstruction Finance Corporation been created two years ago to extend credit for governmental works and self-liquidating enterprises, the depression need not have lasted as long as it has. The five billion or more dollars lost by the federal government alone in budget deficits during the depression could have been spent productively to revive flagging demand and thereby prevent the deficit, and what turned out to be a major depression of devastating proportions need not have been more than a brief recess in the nation's busy activity.

An excellent illustration of the importance of applying credit at the right point is furnished by Clarence M. Woolley's chapter on "The Making of Homes." Mr. Woolley points out that

> between four and a half and six million people are employed in the building industries when they are running in normal fashion. . . . It has been estimated that a quarter of the entire population of the United States receives, directly or indirectly, a substantial part of all its income from construction (p. 223).

Mr. Woolley is "strongly of the opinion that the influence of sound building upon sound prosperity is very great," among other reasons, "because in the process of building, credits are created which start a free flow of money in an almost infinite number of directions" (p. 224). Here we have another independent confirmation of the view that the way to bring about the beneficent effect of credit on business is to start construction activities that will soon entice the credit money out of the bank tills into the channels of business.

Mr. Woolley is firmly convinced that the depression of 1929 was caused largely by the slack which set in in building a year before, not because of overbuilding "but because stock speculation bid up the price of money" (p. 224) and thus brought about a contraction of credit. Citing some interesting statistics to prove his contention, he adds:

> It appears from the figures that everything in the nature of an actual shortage of buildings had been covered by 1925. From that point on, building proceeded because the builders could get the credit. As they went on, the money they distributed promoted enough general credit to give them customers and tenants for their enterprises. The movement stopped only when the money stopped and not because profitable opportunities were lacking. For instance, I have had presented to me no end of projects for tearing out portions of the slums of New York and replacing the hovels with well-designed apartments—but they cannot go forward for lack of money. That the projects in the main are both public-spirited and profitable is shown by the record of one which has been completed. The rooms in the big, new tenement are quite as comfortable as any Park Avenue apartment but the rent is only twelve dollars a room per month. Every one of the apartments is rented. In all, two hundred and sixty-five families occupy the building. They and their six hundred and fifty children are living under fine, healthful conditions but they pay no more than the half million families in the district who are forced to live in old buildings without even elementary conveniences. The new building pays six per cent after amortization and all charges. It is strictly a business undertaking. An immense present field awaits money in the clearing out of the slums both for civic decency and for profit. There is no surplus of good quarters in the slums! (p. 227).

Readers will be interested to learn that on the single score of obsolescence "about a billion dollars in new construction is required each year" (p. 228).

> In addition, about half a billion dollars each year is needed to replace structures destroyed by fire. Merely to remodel the existing urban and rural homes which have neither central heating nor bathrooms would mean a business running into at least fifteen billion dollars. And the remodeling is postponed for only one reason—the lack of money (p. 228).

F. Cyril James' "The Road to Revival"

Professor James' "The Road to Revival" is not in the nature of an original contribution to our economic knowledge but is the product of a broad study of a vast literature bearing on the problem of the business cycle. The book bears evidence of the influence of Keynes upon the author who whole-heartedly and unequivocally adopts the former's conclusion "that a policy of monetary inflation offers the most satisfactory means of escape from the immediate depression" (p. xiv). However, says he, "There are dangers in credit inflation." There is nothing new in that. Keynes and Snyder would avert that danger, by alternately increasing and decreasing the flow of credit, so as to keep business on as even a keel of healthly activity as is humanly possible. James goes beyond that. "It is necessary," he says, "to look beyond the immediate future and to define clearly the aim toward which economic activity is to be directed once the business revival is under way" (p. xiv). That aim "is the enriching of human life" (p. 188). As a means to that end the author proposes: (1) "The scientific management of the monetary mechanism (p. 194); (2) closer co-ordination of business activity within each industry by means of amalgamation or creation of cartels" which is to be achieved by the repeal of the anti-trust laws (p. 155) on the one hand and the "expansion of the regulatory powers of the Federal Trade Commission" on the other (p. 195). All this would help bring about "the adjustment of the volume of production to the amount of consumer demand" (p. 195).

Professor James seems to forget that in Europe, particularly in Germany, cartels have enjoyed practically unlimited freedom of action, but beyond succeeding in raising and maintaining prices at high levels, they have utterly failed as instruments of prevention of depressions, although they have been instrumental in restricting output. The adoption in the United States of the cartel method of regulating production in separate industries would at best succeed in holding production down to consumer demand. In so far as it succeeded in price raising, it would still further reduce that demand, but the author fails to show how the adoption of the cartel system would bring about an increase in consumer demand so as to give employment to those who would be rendered jobless through keeping production down to demand!

The author apparently is aware of that and in order to bring about that "enrichment of human life" which he has set forth as the final aim of all economic activity, he proposes: (3) "to provide for the gradual improvement of the general standard of living, to increase the security of the individual worker, by a system of unemployment insurance and old-age pensions" (p. 195).

Another measure to bring about the same end is: (4) "a redistribution of national income (p. 188) by a sharply graded supertax on incomes of $10,000 or over" for the benefit of the "more than nine-tenths of the thirty millions of income receivers in the United States (who) pay no federal income tax under the present law" (p. 185).

> With the funds derived from this source the government would be in a position to make substantial additions to the real income of Labor by the development of social services, the creation of parks, the construction of roads and many other services. If a similar policy were followed by the several states in their fiscal arrangements, such things as housing schemes, police protection and sanitation might be added to the list of services performed primarily for the working classes at the expense of the capitalist group (p. 185).

In order to co-ordinate these regulatory economic activities of the government he proposes (5) to place the necessary powers in the hands of the Federal Reserve Board and the Federal Trade Commission aided by an Advisory Economic Council (p. 195).

Unlike Mr. Crowther, who, following the lead of Dean Donham, would erect a Chinese wall about the country to completely shut out all foreign trade, Mr. James feels that our export trade is indispensable to us, both to enable our industries to be operated profitably and to maintain a well-balanced world economy, of which we are an inseparable part. To this end, he would (1) greatly reduce, if not largely abolish, our protection duties, of which our giant industries no longer stand in need (pp. 217-218); (2) bring about "close and continuous international co-ordination of financial and economic policies" (p. 205), for which purpose he would have the Federal Reserve Board join the Bank for International Settlements.

As a measure of immediate relief he would cancel our War debts along with the cancellation of reparations.

It is not necessary to agree with all of the author's views to recommend his book as a handy broad review of the economic questions upon a proper solution of which depends the ultimate problem of our day and generation: the overcoming of the dread economic epidemics of depression and insecurity which are eating at the vitals and crushing the spirit of the peoples of the civilized world.

NECROLOGY

John Ripley Freeman

July 27 1855 **October 6, 1932**

Providence, R. I.

An internationally distinguished civil engineer, particularly in the field of hydraulic and fire-protection engineering, Mr. Freeman was held in the highest esteem by his profession in every country and was at the same time equally distinguished in the United States by a career of public service. His fellow-members in the Taylor Society will hold him in grateful remembrance also, because he early perceived the technical and social significance of the work of Frederick W. Taylor and always remained an active promoter of scientific management.

Taylor Society Meetings

Philadelphia, November 11 and 12

This is a meeting of the American Academy of Political and Social Science in which the Taylor Society co-operates. The program will emphasize the problems of collective industry: the immediate problem of unemployment; the long-run problem of unemployment; revision of anti-trust legislation; the need of a new attitude toward industry; national planning; etc.

New York, December 7, 8 and 9

This is the annual meeting of the Taylor Society in which the Society of Industrial Engineers will cooperate. The program will emphasize the management problems of the individual enterprise: production; merchandising; selling and personal relations.

Reviews

L'Organisation Scientifique dans l'Industrie Américaine. Par la Société Taylor, Traduit d'après la Deuxième Edition Américaine par A. Schubert, Dunod, Paris, 1932, pages xviii, 611.

This French translation of the Taylor Society book, "Scientific Management in American Industry" (Harper & Brothers, 1929) has just come from the publishers. It gives every evidence of excellence; even forms are reproduced in the French style with captions and explanatory matter in French. All of the material is thereby made available to a new body of readers who will, we believe, find its study as profitable as have its English readers.

Economic Stabilization in an Unbalanced World. By Alvin Harvey Hansen, Harcourt, Brace and Company, New York, 1932, pages ix, 384.

This book is not destined for a popular audience, but everyone seriously interested in constructive thinking about ways out of the depression and toward increasing economic stability and planning must reckon with the considerations here raised. The purpose is distinctly to sound a note of warning and caution; and the underlying theme is that the continuance of consumer freedom and economic progress may be jeopardized in a serious way by the restraints of increasing social control, which efforts at stabilization usually imply.

As a cautionary check upon constructive thinking, the book performs an invaluable service even for the reader who feels that many of the writer's objections can be coped with if we will. But certainly the factors he emphasizes will require reckoning with constantly and earnestly.

Professor Hansen's treatment covers practically all of the basic problems bearing on instability. The inclusion of the often-omitted topic of population increase is especially useful and suggestive, as is also his analysis in the chapter "New Trends in Capitalism and Socialism."

Ordway Tead[1]

International Unemployment. A Study of Fluctuations in Employment and Unemployment in Several Countries, 1910-1930, pages iii, 496.

World Social Economic Planning. The Necessity for Planned Adjustment of Productive Capacity and Standards of Living, pages lxiii, 585.

World Social Economic Planning. Addendum, pages 587-935. The three volumes edited by M. L. Fledderus, International Industrial Relations Institute, The Hague, 1932.

The results of the World Social Economic Congress held under the auspices of the International Industrial Relations Institute, in Amsterdam in August, 1931, are now available in this three-volume work.

The first contains introductory analyses of fluctuations in employment prepared for study in advance of the Congress. They give a picture of the recurrence of unemployment in different parts of the world during the two decades preceding the present world-wide depression. Conditions in Australia, Canada, China, Germany, France, Great Britain, the United States and Russia are set forth by authorities who support their texts with the available statistical data. All the material except that on Germany, which is given in German, is presented in English. Synopses in French and German follow the English texts, except in the case of the Russian material, and the one German text is followed by synopses in English and French.

Miss van Kleeck points ~~out in~~ her "Introduction and Summary," which is printed in the three languages, the reasons why this material was considered basic to the study of means of stabilizing a high standard of living throughout the world—the object of the World Social Economic Congress. By consultation with the International Labor Office and the Economics Section of the League of Nations prior to the Congress it was found that only a start had been made in the collection of comparative data on employment fluctuations in the different countries. The special studies given in this volume were, therefore, thought desirable and were made with the hearty co-operation of the International Labor Office.

An outline of information desired was followed by each group of authors so that the material collected is in a sense on a comparable basis. It brings out certain similar tendencies in all the nations but Russia, where there was in 1930 a labor shortage instead of unemployment, and China, which is not yet industrialized. All the material shows the need for further effort toward uniformity of information if these data are to be used as a basis for international economic co-operation.

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[1] Editor of economic and business books, Harper & Brothers, and lecturer on personnel subjects, Columbia University, New York, N. Y.

[2] *International Unemployment* and *World Social Economic Planning* (including the *Addendum*) are priced at $2.50 each, and may be obtained in the United States from the Russell Sage Foundation, Department of Industrial Studies, Room 600, 130 East 22nd Street, New York, N. Y.

The two volumes on World Social Economic Planning constitute an international text on that subject which should be of lasting value. In these volumes also the papers are given in the language of their authors, as is the discussion. Synopses of the papers (but not of the discussion) appear in the other two languages in the "Addendum," which also contains some of the preliminary papers and the papers on supplementary subjects.

The major papers, several of considerable length, are The Present Growth of World Productive Capacity (in German) by Dr. Otto Neurath, Social Director of the Economic Museum, Vienna; The Problem of Economic Planning by Lewis L. Lorwin, of the Brookings Institution; Scientific Management as a Philosophy and Technique of Progressive Industrial Stabilization by H. S. Person, Managing Director of the Taylor Society; European Aspects of Scientific Management in Economic Planning (in German) by Hugo von Haan, of the International Management Institute, Geneva; and several significant papers on the technique of planning in the U. S. S. R. (in English) by V. Obolensky-Ossinsky and other members of the Soviet delegation—the first Russian technical papers presented with official sanction at any international congress. These and other papers make this one of the outstanding books on industrial regularization through national and international planning.

Miss Mary van Kleeck's "Analysis and Review of the Congress," which opens the main volume, is a masterly presentation of the common thought and purpose behind the contributions to the Congress, of the differences of opinion and conviction which were brought out and of the revealed need for co-operative effort to relieve the desperate needs of humanity.

HELEN A. CARNES[3]

New Roads to Prosperity—the Crisis and Some Ways Out. By Paul M. Mazur, The Viking Press, New York, 1931, pages xiv, 194.

Mr. Mazur realizes that the capitalists have most of the power in our country for better or for worse. He addresses them clearly, authoritatively and in their own interests as he sees them. The book is, therefore, written for the study, open mindedly and with the utmost earnestness, of capitalists and their conscious and unconscious allies. Others will have little complaint with any of his thesis.

Mr. Mazur goes with the inflationists to the point of showing ably the need for some way of getting the surplus earnings back into use without reinvestment into capital goods. And he keeps this diagnosis clearly and consistently throughout his discussion. Beginning with an astute analysis of our difficulties he discusses our chaotic production and pricing, our foreign policy, our ill-fitting gold standard and our banking structure and traditions.

We are faced with the need "for adoption of intelligent planning that will allow economic evolution to take its course." His prototype for "The National Economic Council" is the United States Supreme Court. Yet it would be purely advisory and have the power of publicity as its "instrument of effectiveness." Also certain banking reforms would make it possible for the banks to co-operate in giving the Council effectiveness. The Council, with broad representation and advice, would plan for statistics in a purposeful way now entirely lacking and would use the existing federal services to collect and supply the figures. The Council would integrate and interpret them, issuing warnings when necessary to business, finance and the Federal Reserve System. It is to be presumed that the Council is to be provided legal sanction to get the facts which are now often given tardily and inaccurately, or refused.

He advocates a general enforcement of the five-day week, recognizing that it will require most vigorous campaigning to procure the legislation necessary to effect this and to prevent "giving a special privilege to those business men who do not participate." Three objectives are all to be simultaneously worked for: "First, action by the individual states; second, expansion of the police powers of the federal government and its regulatory power over interstate commerce; third, constitutional amendment."

Certain policies are recommended to manufacturers to direct funds away from unwise expansion and into "the balancing channels of consumption."

"First, that a more generous percentage of profit be paid as dividends on equity stocks.

"Second, that the dividends paid each year be in direct relationship to the income of that year.

"Third, that all expansion of plant capacity, the necessity of which is not patent, shall be provided by capital in part out of earnings and in part out of subscriptions to stock offered with a covering letter of explanation at the time of the dividend payment. (This is the same as an alternative offer of a stock and cash dividend and gives the stockholder a chance to elect his choice.)

"Fourth, that funds accumulated for the purpose of protecting requirements of working capital and solvency be kept in cash or its equivalent and *not* invested in capital assets for increased production.

"Fifth, to the extent that directors . . . elect to carry over a part of the surplus from the current year, that surplus item should be invested in assets that can be easily converted into cash and not in productive equipment."

Mr. Mazur is a powerful supporter of a comprehensive housing project (what student is not!) and offers suggestive provisions to control by increasing interest rates the possibility of overstimulus.

His chapter on consumer financing advocates that it be undertaken by much strengthened sanctions of the Federal Reserve System. It is on this most difficult subject that his clear logic is not allowed to drive him to outspoken conclusions. The deuce of it is that it is the unemployed and their dependents who need purchasing power if we are to regain a sound economic consuming power. If he recommends direct loans to those with no possible means of repayment and with little prospect of any, he does not make it clear. But he defends consumer financing in general in manful and unmistakable terms: "Credit which helps man to maintain or establish his

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[3] Taylor Society, New York, N. Y.